

**MENTAL ILLNESS AND BRAIN
DISEASE: DISPELLING MYTHS AND
PROMOTING RECOVERY THROUGH
AWARENESS AND TREATMENT**

HEARING
BEFORE THE
SUBCOMMITTEE ON HEALTH
OF THE
COMMITTEE ON ENERGY AND
COMMERCE
HOUSE OF REPRESENTATIVES

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MENTAL ILLNESS AND BRAIN DISEASE: DISPELLING MYTHS AND PROMOTING RECOVERY THROUGH AWARENESS AND TREATMENT

WEDNESDAY, JUNE 28, 2006

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON HEALTH,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:00 a.m., in Room 2123 of the Rayburn House Office Building, Hon. Nathan Deal [Chairman] presiding.

Members present: Representatives Deal, Gillmor, Shimkus, Shadegg, Pickering, Pitts, Ferguson, Myrick, Burgess, Barton (ex officio), Pallone, Rush, Eshoo, Capps, Allen, and Baldwin.

Also Present: Representative Murphy.

Staff Present: David Rosenfeld, Chief Counsel; Randy Pate, Counsel; Ryan Long, Counsel; Brandon Clark, Policy Coordinator; Chad Grant, Legislative Clerk; John Ford, Minority Counsel; and Alex Gerlach, Minority Staff Assistant.

MR. DEAL. The subcommittee will come to order and the Chair recognizes himself for an opening statement. We had delayed for just a few minutes because we were having technical difficulty with the server that is our Web cast to the offices. I am going to take the prerogative of proceeding with the opening statements because my colleagues I am sure will forgive me for not having their statements broadcast into everybody's office, but I hope they will have it finished by the time we get to our first panel.

I am proud to say that today we have two expert panels of witnesses appearing on the subject of "Mental Health and Brain Disease: Dispelling Myths and Promoting Recovery Through Awareness and Treatment." I think that after we hear these two panels we will have a greater understanding of the issues related to the treatment for and recovery from severe mental illness.

According to the National Institute of Mental Health, an estimated 10.4 percent of American adults suffer from bipolar disorder, major depressive disorder, or schizophrenia in any given year. These three diseases are included in the list of eight mental disorders that are clarified

as serious mental illness, or SMIs. The precise cause of these diseases is not clear. Scientists know that SMIs affect the physical nature of the brain, the structure of the brain, and have made progress in linking genetic markers to specific mental illnesses. Like many other serious diseases, however, the particular factors that cause SMIs are difficult to determine. It is now accepted that bipolar disorder, major depression, and schizophrenia are biologically based diseases like diabetes, autism, and a host of other physical ailments. The biological nature of these diseases, however, cannot be separated from environmental factors that may trigger symptoms or enhance their severity. For example, a recent study showed that if mothers with major depression were treated successfully, their children were 11 percent less likely to be diagnosed with depression themselves. Clearly both genetic and environmental factors play a role in these disease processes.

But many high profile citizens have spoken publicly about being diagnosed with these diseases in recent years. Stigma surrounding mental illness diagnosis and treatment persist. Stigma can be more or less severe depending on race, sex, ethnicity, socioeconomic background, and age. Moreover, the social and economic ramifications of being labeled mentally ill can be considerable and sometimes devastating.

While SMIs are serious and complex, people who obtain effective treatment can be productive and successful in spite of their disease. Treatments available for bipolar disorder, depression, and schizophrenia are not perfect or foolproof however. Some have considerable side effects, and it is often difficult for patients to take recommended medications consistently. A combination of medication and counseling tends to be most effective.

According to a 2002 Department of Health and Human Services report, diagnosable mental illness costs the United States about \$170 billion per year in healthcare expenditures and lost productivity. The costs of untreated mental illness are staggering, including homelessness, substance abuse, criminal behavior, incarceration, unemployment, and suicide. Research conducted at NIMH indicates that over 90 percent of people who commit suicide have depression or other diagnosable mental or substance abuse disorder.

The first panel today will provide an overview of severe mental illnesses. Dr. Raymond DePaulo will address the burden of mental illness in the United States. Dr. Thomas Insel will discuss current research initiatives that demonstrate the biological nature of these diseases and the effectiveness of current treatments. He will also provide an outline of the NIMH's mission for future research.

Dr. Kay Redfield Jamison will testify as both a person with bipolar disorder and as one of the disease's leading experts. Dr. Jamison will

discuss current trends and treatment of bipolar disorder and major depression as well as the risk associated with untreated illness. Dr. Diane Gooding will testify about the biological basis of schizophrenia and highlight effective treatment strategies.

The second panel will discuss their experiences with seeking help, diagnosis and treatment. Jennifer Martin is an attorney who was diagnosed with major depression. Gil Lamphere, Managing Director for Lamphere Capital Management, also suffers from depression. Mr. Pete Earley, a local author and former Washington Post reporter, has a son who has struggled with bipolar disorder for several years.

Again, I would like to thank all our witnesses for participating today. I would also like to give a special thanks to Ms. Myrick from North Carolina, a member of our committee, and her staff, whose hard work and dedication to helping those suffering from brain disease has made today's hearing possible.

At this time I would like to ask unanimous consent that all members are allowed to submit statements and questions for the record.

Without objection, it is so ordered. I am now pleased to recognize in the place of our normal Ranking Member a very able substitute, Ms. Baldwin, for her opening statement.

[The prepared statement of Hon. Nathan Deal follows:]

PREPARED STATEMENT OF THE HON. NATHAN DEAL, CHAIRMAN, SUBCOMMITTEE ON
HEALTH

- The Committee will come to order, and the Chair recognizes himself for an opening statement.
- I am proud to say that we have two expert panels of witnesses appearing before us this morning that will help us examine issues related to the treatment for and recovery from severe mental illness.
- According to the National Institute of Mental Health, an estimated 10.4 percent of American adults suffer from bipolar disorder, major depressive disorder, or schizophrenia in any given year. These three diseases are included in a list of eight mental disorders that are classified as serious mental illnesses, or SMI's.
- The precise cause of these diseases is not clear. Scientists know that SMI's affect the physical structure of the brain and have made progress in linking genetic markers to specific mental illnesses.
- Like many other serious diseases, however, the particular factors that cause SMI's are difficult to determine.
- It is now accepted that bipolar disorder, major depression, and schizophrenia are biologically based diseases like diabetes, autism, and a host of other physical ailments.
- The biological nature of these diseases, however, cannot be separated from environmental factors that may trigger symptoms or enhance their severity. For example, a recent study showed that if mothers with major depression were treated successfully, their children were 11% less likely to be diagnosed with depression themselves. Clearly, both genetic and environmental factors play a role in these disease processes.

- Though many high profile citizens have spoken publicly about being diagnosed with these diseases in recent years, stigma surrounding mental illness diagnosis and treatment persists. Stigma can be more or less severe depending on race, sex, ethnicity, socioeconomic background, and age. Moreover, the social and economic ramifications of being labeled “mentally ill” can be considerable and sometimes devastating.
- While SMI’s are serious and complex, people who obtain effective treatment can be productive and successful in spite of their disease. Treatments available for bipolar disorder, depression, and schizophrenia are not perfect or foolproof, however. Some have considerable side effects and it is often difficult for patients to take recommended medications consistently. A combination of medication and counseling tends to be most effective.
- According to a 2002 Department of Health and Human Services report, diagnosable mental illness costs the United States about \$170 billion per year in health care expenditures and lost productivity. The costs of untreated mental illness are staggering, including homelessness, substance abuse, criminal behavior, incarceration, unemployment, and suicide. Research conducted by NIMH indicates that over 90 percent of people who commit suicide have depression or another diagnosable mental or substance abuse disorder.
- The first panel will provide an overview of severe mental illnesses. Dr. J. Raymond DePaulo will address the burden of serious mental illnesses in the U.S.
- Dr. Thomas Insel will discuss current research initiatives that demonstrate the biological nature of these diseases and the effectiveness of current treatments. He will also provide an outline of the NIMH’s mission for future research.
- Dr. Kay Redfield Jamison will testify as both a person with bipolar disorder and as one of the disease’s leading experts. Dr. Jamison will discuss current trends in diagnosis and treatment of bipolar disorder and major depression as well as the risks associated with untreated illness.
- Dr. Diane Gooding will testify about the biological basis of schizophrenia and highlight effective treatment strategies.
- The second panel will discuss their experiences with seeking help, diagnosis, and treatment. Jennifer Martin is an attorney who was diagnosed with major depression.
- Gil Lamphere, managing director of the Lamphere Capital Management, also suffers from depression. Mr. Pete Earley, a local author and former *Washington Post* reporter, has a son who has struggled with bipolar disorder for several years.
- Again, I would like to thank all of our witnesses for participating today, and I would also like to give a special thanks to Ms. Myrick from North Carolina and her staff whose hard work and dedication to helping those suffering from brain disease has made today’s hearing possible.
- At this time, I would also like to ask for Unanimous Consent that all Members be allowed to submit statements and questions for the record.
- I now recognize the Ranking Member of the Subcommittee, Mr. Brown from Ohio, for five minutes for his opening statement.

MS. BALDWIN. Thank you, Mr. Chairman, and thank you so much for holding this very important hearing today.

Part of the purpose of this hearing is to raise awareness about mental illness and reduce the stigma associated with it, and these are certainly worthy goals and I know many of my colleagues join me in sharing them.

It is amazing to me to think that one of the biggest challenges that continues to face mental health researchers, advocates, parents, and patients is the belief that mental illness is not a real illness, and frankly it is sad that this continues to be a commonly held misconception in the year 2006.

I consider myself lucky because courageous family members, dear friends and constituents have told me their stories and shared with me their struggles so that I might understand.

The Alliance for the Mentally Ill, or AMI, which in French means “friend,” was founded in the Congressional district that I have the honor of representing. This advocacy group has made amazing strides with regard to public policy change, meanwhile providing important public education on mental illness as well as support for families dealing with a new diagnosis.

I am happy that our first panel of witnesses is here to inform and update us on the exciting and groundbreaking work that is being done in the arena of mental health research. Mental illnesses are tangible, treatable health problems just like hypertension or cancer or heart disease, and I know that the research being done confirms this every day.

Just as heart disease is a disease of the heart, mental illness is a disease of the brain, and the more that we can learn about the origins, symptoms and treatment of mental illness, the more ammunition we have to fight the myths and stigma that surrounds mental illness.

While holding this hearing is a promising step, I think that there are several other steps that we as Members of Congress can take to promote awareness and reduce stigma.

One is to support adequate funding for the NIH. It is unacceptable that after a significant commitment that this Congress has made to doubling the NIH budget, we have allowed that momentum to disappear by flat funding the NIH in recent years. In the world of medical research, where the costs of doing research are continually rising, this flat funding translates into a cut.

In the past few years, funding for qualified grant applications has fallen to about 20 percent from a high of about 33 percent at the peak of the doubling in 2001, and I wonder sometimes what this says to young aspiring researchers.

Similarly unacceptable is this Congress’ inability to pass mental health parity legislation. Mental illness is no different from physical illnesses. It should be covered by insurance in a nondiscriminatory manner. And we see this inequity in private insurance and even in Medicare. It is time to pass mental health parity.

Lastly, I would like to extend a very warm welcome to my constituent, Dr. Diane Gooding, Associate Professor of Psychology and

Psychiatry at the University of Wisconsin, Madison. Dr. Gooding, I am honored you were able to join us and I am very proud of the groundbreaking research that is conducted at the University of Wisconsin Madison, and this holds true for the research that you are doing regarding schizophrenia. Thank you for joining us and thank you to the rest of our witnesses as well, especially those who are courageously sharing their personal stories so that we may learn.

Thank you, Mr. Chairman.

MR. DEAL. Thank you. I am pleased to recognize the Chairman of the full committee, Mr. Barton from Texas, for an opening statement.

CHAIRMAN BARTON. Mr. Chairman, I will submit my statement for the record. I appreciate you doing the hearing and I look forward to hearing from our witnesses.

[The prepared statement of Hon. Joe Barton follows:]

PREPARED STATEMENT OF THE HON. JOE BARTON, CHAIRMAN, COMMITTEE ON ENERGY
AND COMMERCE

Thank you Chairman Deal for holding this hearing on the important topic of mental health, also increasingly referred to as brain disease.

As science advances and as our understanding of the human body increases, we are coming to a greater awareness of the infinite intricacies of the human brain. A brain is faster than the fastest super computer ever built, performing millions of calculations per second and storing enormous quantities of information. Our brains are marvelous tools we rely on every second to navigate through a dangerous world. The brain also allows us to ponder and ask questions about the universe and our place in it.

With all the activities the brain coordinates and makes possible for us, we encounter remarkably few problems. The artificial intelligence we now use each day may be wizardry, but it's no match for the brain. Generally speaking, the mind does not require rebooting, does not freeze up or shut down just as you get ready to save something. Memories may fade, but they're not usually deleted.

Sometimes, however, our brains do encounter problems that interfere with our functioning as human beings. When that happens, it can be disastrous for the patient, but also for family, friends, and colleagues.

We are learning more every day about how the brain works and how to fix it when it breaks, and I want to say a special word of thanks to Sue Myrick at this point. Sue was the driving force behind today's hearing. Her family knows what it is to encounter the problems and the stigma of a disease that is just as destructive as cancer and diabetes, and I want to applaud her courage and her determination to bring these issues into the light.

Today we will hear from a distinguished panel of experts about the biological and environmental causes of common mental illnesses and learn about the exciting research and treatments that are becoming available to us.

We are also fortunate to have with us today on our second panel three people who have experienced mental illness either as a patient or as a family member. They are here to shed light on their battles with mental illness as well as on their struggles with its unfortunate and unfair stigma; more often the result of ignorance than malice. I look forward to hearing each of their stories today and thank them for being here.

Thank you again Chairman Deal for holding today's hearing and welcome to our witnesses.

MR. DEAL. I thank the gentleman. I would then recognize Ms. Myrick, who is really the leader of this cause and brought this issue before the subcommittee. Ms. Myrick.

MS. MYRICK. Mr. Chairman, thank you and I really appreciate this opportunity that you are holding the hearing today and I want to thank all of you that are here to share with us because you are what makes it happen as well.

The real goal that I have in mind is, personally today with this hearing, is to bring mental illness out of the shadows and emphasize it conceptually, these are really brain diseases, conditions that are biological, they are diagnosable and they are treatable. And though the title says mental illness and brain disease, they are really one and the same.

Monday, after an article appeared in my local paper that we were going to have this hearing, I was really encouraged because I was going through the airport and after I got on the plane a lot of people came up to me and just said, thank you, thank you for doing this. And what that said to me was this is a bigger problem than anybody is willing to admit. It really affects a lot of us, and again those of you who are sharing your personal stories, thank you, thank you, thank you because the more of that that happens, the more progress we are going to make.

Today we are going to focus on three diagnoses that fall under the severe mental illness category: major depression, bipolar disease, and schizophrenia. These are some of the most serious mental illnesses, and acknowledging that these diseases exist is good for our whole society, not just for parents and patients and the people who deal with it. Awareness provides a clearer path to treatment and lessens the personal and societal costs of the disease.

You know, all of us on this subcommittee support various awareness hearings and programs for diabetes, breast cancer, arthritis, chronic pain, Alzheimer's, everything else. This is just another one that we need to consider in the same way.

You know, I think about what it was like 20 to 30 years ago when nobody wanted to say I have cancer. You know it was a stigma that you just never told anybody. You were afraid to go forward because you might lose your job or women would say to me, you know, I might--my husband will leave me. Whatever the reason, nobody would talk about it.

And when I went public with my breast cancer in 2000, a lot of close friends and colleagues came up to me and said, I have had breast cancer. I had known them 20 years and they never told me. They kept it a secret. And it is really I believe the same thing that we are dealing with today with brain disease. We are in the same position. People don't want to

talk about it because they are afraid. Sometimes they think there is no solution to the problem. But there are ways to live with it, and I hope that will be clear today.

We have a granddaughter who is bipolar, and she first started suffering with this when she was about 13 years old. It has been a long road. She is now an adult and, very frankly, the whole family has lived this story the whole time. And it doesn't affect just the person. It affects the family. And that is I think the thing that we forget about. Everybody gets involved. It is not just the patient. And so, we as a family have spent countless hours, counseling and trying to get her to accept treatment that you know she will accept, worrying about her. Those of you who have been through it know what it is like. But they are life threatening diseases and we don't realize that.

In 2001, by the way, more Americans killed themselves through suicide, which is directly related to these diseases in many, many ways, than died of HIV and AIDS. And when I saw that, that really hit me hard because we don't consider that the same thing.

So we need to get to the root of the problem, why are people committing suicide? It is because there is another problem there that they are dealing with that hasn't been dealt with themselves. And so the progress in research to me is so great. I mean there is no reason for hopelessness with this issue because those of you in front of us have been doing wonderful work. Other people are doing wonderful work. And we are finding out more and more that there are solutions to the problem, that we really can be hopeful about what can happen.

So I really welcome all of you again. Thank you from the bottom of my heart for what you do every day, and for those of who you who are sharing with us, thanks again for being here.

MR. DEAL. I thank the gentlelady. Mr. Pallone is recognized for an opening statement.

MR. PALLONE. Thank you, Mr. Chairman. I am glad we are holding today's hearing. Now more than ever we need to be talking about mental health. Nearly 30 million Americans suffer from mental health disorders and more than one in five persons will experience a mental health disorder in their lifetime. Millions of people suffer from serious, debilitating and life altering mental illnesses, such as bipolar disorder and schizophrenia, and nearly every American has a friend or relative that has to cope with such diseases.

Mr. Chairman, I have to be honest, while I appreciate your calling today's hearing, the truth of the matter is that for far too long the Republican led Congress has shirked its responsibility when it comes to mental health in America. One hearing on mental health cannot make up for the many years this important topic has been largely ignored or for

the harmful policies that my Republican friends have enacted over the past few years by cutting Federal programs that could provide some help. And I recognize the importance of raising public awareness, but I don't know how you can talk about treatment and recovery without talking about access, which I think increasingly is a problem.

Many of the witnesses testifying today will talk about new research and breakthrough discoveries, yet what good is it if the research never reaches the patient? Millions of Americans are unable to access life-saving treatment and therapy because this committee, and I think the Republican leadership, have not taken action on the Paul Wellstone Mental Health Parity Act, which my colleague from Wisconsin mentioned has strong support from both sides of the aisle, including many members of this committee. So we should simply move it.

And I think the Republican record on mental health issues or the problem with the lack of record doesn't stop there. It is one thing to block important legislation such as the Parity Act that would undoubtedly improve access to mental health services, but it is another thing to pass legislation that would further restrict treatment options, which is exactly what Republicans did when they gutted Medicaid this year.

Medicaid, as we know, is the single largest source of funding for mental health care in this country, comprising over half the State and local spending on mental health services. But that didn't stop this Congress, again the Republican leadership, from taking their red pen during last year's reconciliation and slashing billions from the Medicaid program. As a result millions of low-income people who suffer from debilitating mental disorders, some of our most vulnerable citizens, will have to overcome new barriers to care such as prohibitive cost sharing requirements for medications, and I have no doubt that their mental health is now in jeopardy.

Again I want to thank the Chairman for holding today's hearing. Certainly, raising awareness about mental health and treatment is an important topic, but so is access. And if my Republican friends are truly interested in improving the current state of mental health in this country then a good first step would be addressing the lack of access that most Americans face or many Americans face when they seek treatment.

Thank you, Mr. Chairman.

MR. DEAL. I now recognize Mr. Ferguson for an opening statement.

MR. FERGUSON. Thank you, Mr. Chairman. I don't have a prepared opening statement, but I want to thank you for holding this hearing. I want to thank Sue Myrick for her leadership on this issue, and I am pleased to be able to be here to listen to our witnesses today and to read their testimony because this is a very difficult and very important issue.

There are so many misunderstandings and a lack of awareness that Ms. Myrick touched on before that surround mental illness and brain disease. People don't talk about it very much and Ms. Myrick was referring to that earlier. And even though people don't talk about it a lot, and there is this still unfortunately this stigma that surrounds mental illness, many, many, many families are touched by mental illness and brain disease and frankly my family is one of them.

Mental illness and brain disease are particularly difficult to deal with because they are not immediately physically apparent to others, and it is only through real process of diagnosis and investigation do they become better known or more apparent. And because of that, it makes it extremely difficult on a family, on the loved ones of the person who is affected, and it makes it even more difficult, frankly, to translate that into more public awareness and frankly good public policy.

I have been a supporter of the mental health parity efforts here in the Congress. I have a very, very close friend at home who is a young person who is struggling with brain cancer right now, that the brain is so difficult and so complex and it is my hope that through Sue Myrick's efforts, this committee's efforts, this Congress' efforts that we will begin to know more and more about the brain and about how we can conquer the difficulties and the challenges that we face in treating brain disease and mental illness.

You know, 20 and 30 years ago, people in the healthcare field talked about the heart and they talked about cancer, and we have made such incredible progress when it comes to the heart and to cancers and other previously really vexing diseases and difficulties and afflictions that human beings deal with. It is really my hope and belief that this next frontier, the next huge breakthroughs in human health are going to come with the brain and it is my hope that through hearings like this, Mr. Chairman, and the efforts of this Congress that we can continue to further those efforts.

So thank you very much again for holding this hearing, Mr. Chairman. I appreciate your leadership on this issue and I yield back.

MR. DEAL. I thank the gentleman. Ms. Eshoo is recognized for an opening statement.

MS. ESHOO. Thank you, Mr. Chairman, for holding this hearing and I want to salute our colleague, Congresswoman Myrick, for being the agitator as it were to make sure that we have this examination. It is an important hearing for all the reasons that my colleagues have stated.

All we have to do, as many of my colleagues have said, is just look within our own circle, our families and our close friends, to know that this is something that is really relatively common, and that much

progress has been made in terms of research and the examination of the human brain.

I think that in one of the individual's testimony they used the following phrase, that this is the treatment of cancer in the 21st Century--I am just paraphrasing. It wasn't all that many years ago when the word "cancer" was like an atomic bomb when the word was stated. There was hopelessness that accompanied the word, and now the progress that has been made--well we could go on and on, we could have hearings celebrating the progress. There is a reason for that, and I think that our committee needs to reappreciate it. And that is that we made it a top priority in the country. And when we did, we said that we would invest in the necessary research in order to advance cures for the disease.

Now there are some cancers we haven't conquered yet. There are others that are really stoppable and curable. As we did that, we also recognized that if anyone that was afflicted with cancer did not have access to what the researchers had brought forward, then they were condemned to essentially the past. In other words, they might as well be living without the benefit of the research. And so today is one of the steps, in my view, along the way because there is much to do.

We know that there are several of our colleagues battling this illness, and one of our colleagues talked about this today. Patrick Kennedy has been very courageous in coming out and talking about his illness. We know that a President of the United States--at least one, maybe there were many--Abraham Lincoln suffered from what I think was what we would now call depression for different bouts in his life and spent time I think with family or friends because he needed them not only to help him, but also probably so that he wouldn't harm himself.

So the history is very rich in terms of experience.

We need to not only hear from the researchers today and those that have firsthand experience, but I hope what the subcommittee will do is to take the next step, and that is to see that we have robust funding for the research, because the breakthroughs will not be made and we will really all be condemned to the discrimination and the lack of awareness of the past unless we make the proper investments. And then the step that comes with that is that there not be a discriminatory system in terms of access to what the researchers put out there for all Americans. And when we do that, we will give hope to humankind because the United States of America is always first. Always first. We have a great pride in that and it is justifiable. But it won't happen unless the political will is really exhibited.

It wasn't that many years ago when Richard Burr was on this committee, we had legislation that established the National Institute of Bioimaging and Bioengineering. That was all it was. We did that

because we understood that through the bioimaging and through the bioengineering that breakthroughs could indeed be made, but only unless and until we made that investment, which we did. We were very proud of the work that we did. President Bush signed that bill into law.

These are all steps in the right direction. The President has said, I believe it was in 2002, that he favored ending discriminatory insurance coverage. And so we should not only be comforted by that, but match his forward thinking on this. It will take some boldness because there seems to be an attitude around the Congress that we could take some baby steps, but we can't take the last full step that will need to be taken.

And this is a bipartisan issue. It is a nonpartisan issue. And there are many, many Americans, too many Americans that are still waiting in the wings to have this addressed.

So thank you, Mr. Chairman, thank you to our colleague, Congresswoman Myrick, and to the researchers, the leaders that are here as well as those that are going to give testimony, which I think is very courageous, from their own experience. I look forward to hearing from you.

MR. DEAL. Thank you. Mr. Shimkus is recognized for an opening statement.

MR. SHIMKUS. I will yield, Mr. Chairman.

MR. DEAL. Mr. Shadegg is recognized for an opening statement.

MR. SHADEGG. Thank you, Mr. Chairman. I will make a few brief remarks. I want to commend you for holding this hearing. I want to commend my colleague, Ms. Myrick, for drawing our attention to this topic. It is a topic that affects all of us.

I remember as a young child in Phoenix, Arizona, growing up both seeing homeless people on the streets and at times going past the Arizona State asylum for mentally ill and thinking about this issue.

Obviously it is an issue that concerns us as a society. We as a Nation I think long ago made a decision that no American should go without basic healthcare, and for that reason we passed various laws that ensured that Americans can go, for example, to an emergency room, and get health care. Many of us, as you know, Mr. Chairman, are working on legislation that will even improve upon that system and would provide better coverage for the 44 million or more uninsured Americans who for one reason or another, largely for many of them it is cost, can't today get health insurance or afford health insurance. A part of that big puzzle is the mentally ill.

I worry today with the deinstitutionalization of many mentally ill which occurred in decades gone by, there are too many homeless that are affected by mental illness and we are not caring for them enough. I

know it is an issue about which we need to be concerned and I commend you for holding the hearing.

The specific topic of this discussion today is treatment for and recovery from severe mental illness. That is very important. Obviously, a family member can affect the entire family when they have these kinds of diseases and we need to touch upon them.

In the discussion, however, I would hope that we would look at the issue of balance. One of my concerns is that mandated health care coverage runs up the cost of health insurance for everyone, and I am deeply worried about America's overall competitiveness in the world, in the business realm because of the cost of health insurance today.

The President of Intel visited me just toward the end of last week in my office and his major concern for their competitiveness worldwide is that the cost of health insurance is going to make America uncompetitive in the market which means that the market for building those products will move overseas and America will lose jobs to countries where the cost of health insurance isn't so great.

It could well be that rather than directing additional resources to come out of the insured population maybe these are insurance where the taxpayers themselves through the National Institutes of Health or other government organizations should be looking at funding these costs because of the incredible burden that cost of healthcare can impose on America's economy in a worldwide, very competitive economy, where we have to compete with all the countries around the world. That is an aspect we need to look at.

With that, Mr. Chairman, I yield back.

MR. DEAL. I thank the gentleman. Ms. Capps is recognized for an opening statement.

MS. CAPPS. Thank you, Mr. Chairman, and I too thank you for holding this hearing. I salute our colleague, Sue Myrick, for pulling together an expert panel of witnesses and making this day happen in the life of our subcommittee and I would be one who would be in favor of this not being an occasional time to raise awareness for us. We need that, but we surely could use the community's NAMI, National Alliance of Mental Illness, and mental health associations, that we have those groups in our communities to help us along with our expert witnesses to set some benchmarks for ourselves in terms of achievable standards and goals that we really have a responsibility to meet and make this day worth something.

It is important in itself because it gives us a chance to discuss issues that are significant, that are life saving, that will have a positive effect on our economy, that we just need to be doing as a civilized nation in this world today.

I came to Washington as a spouse in the late 1990s, and because of that position I was able to avail myself of the last couple of years of the decade of the brain and to learn about the breakthroughs and the radical transformations in understanding the brain and the illnesses and disease conditions that can be affected by imaging technology, and the National Institute of Mental Health has really pushed us and opened so many doors for our society that are now just poised to becoming standards of practice. Again it is all about who has access to care, in my opinion.

But I was privileged also to be here in the beginning of my term in Congress when the White House had its first ever, I believe, conference on mental illness and, Dr. Jamison, that is when I first heard you and I was struck by many of you--all of you may have there. I don't know--but the power of people telling their stories.

And what a long way that goes and some of the outgrowth from that conference and other effects on destigmatizing and the multimedia campaign to raise awareness among our young people in language they could understand and can understand. We have to keep that momentum going because we have a dual purpose, I believe, to keep the awareness level but also to make sure that we see mental health and diseases of the brain as parity, as a part of health every bit as much as a broken arm or a leg or a situation requiring insulin if you have diabetes.

We have come a long way with cancer. We need to do the same thing in this situation, and yet today in 2006 I know because my brother who lives with bipolar disorder has taught me so much throughout his adult life on what this means. We still carry stigmas and we still leave so many people without access to treatment that could make such a difference in their lives.

So we have our work cut out for us, and one of the areas that is so significant to me is the determination by many of our insurance carriers that therapy and comprehensive treatments are not worth the bottom line and that we can only do short term, we can only do capped treatments, we can only do quick fixes. And that means we haven't learned what we need to know about the short-sightedness of some of this.

Now we need to know that. We do know that mental illness needs to be treated like other illnesses. Many of you know I was a school nurse for 20 years. And if a student were to come to my office with a broken arm, what if I just gave that person a Band-Aid and sent them back to class? I mean, it is appalling to think of that, and that is what we are doing with people who present themselves to those who are professionals and, you know, X-rays and treatment, but denying patient coverage to psychotherapy by telling them that their mental health professionals' recommended course of treatment is unnecessary and forcing those

individuals to cope alone is exactly like putting a child with a broken limb back into the classroom with a pat on the back and a Band-Aid.

So we cannot afford to let this go on. We have the ability to set standards. We have shirked our responsibilities, and that is why this day and this opportunity that we have with these witnesses here is important. We need to be listening to what you are going to be telling us that we need now in this society and this century to take mental illness more seriously and to bring the issue of parity to the floor.

I yield back.

MR. DEAL. Mr. Pitts is recognized for an opening statement.

Dr. Burgess is recognized for an opening statement.

MR. BURGESS. Thank you, Mr. Chairman. Actually in the interest of time I submit for the record and look forward to hearing from our witnesses.

[The prepared statement of Hon. Michael C. Burgess follows:]

PREPARED STATEMENT OF THE HON. MICHAEL C. BURGESS, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF TEXAS

I would like to thank Chairman Deal for holding this hearing on mental health and brain disease.

According to the National Institute of Mental Health (NIMH), 6 percent of Americans ages 18 and older or 1 in 17 adults suffer from a serious mental illness. Individuals can also be diagnosed with several disorders at one time.

During this hearing, we will focus on the following illnesses - major depressive disorder, bipolar disorder, and schizophrenia. Major depressive disorder and bipolar disorder are mood disorders. In addition, major depressive disorder is the leading cause of disability in the United States for people between the ages of 15 to 44. Next, schizophrenia affects about 2.4 million American adults. Both men and women have an equal chance of developing schizophrenia. In consequence, the lives of millions of Americans are touched by these diseases.

Mental illnesses can be devastating to the affected person as well as his family. As with every disease, people can become affected by a mental illness at any time in their lives. These can be difficult to diagnose and much research is still needed to bring us a better understanding of the biological basis for these brain diseases. The brain can now be studied in greater depth, as our technology improves, such as with functional MRI that can tract the blood flow associated with different brain activities. Furthermore, studies on the signaling molecules, such as neurotransmitters, are leading to discoveries about where they are located and what they are involved with. Many of these mental disorders have already been associated with disruptions in normal brain processes. This knowledge about pathways is crucial to develop more targeted drugs.

Making a proper diagnosis can be difficult, but it is just the initial step. The treatment that works best for an individual can sometimes remain elusive. However, once it is found, these individuals have a chance to lead fulfilling lives if they continue their treatments throughout their lifetimes. Two issues that physicians consider are compliance and the medication side effects, which are both important factors in the successfulness of treatments.

I look forward to the testimony from the first panel on the ongoing research and the direction it is headed. Our discussion would also not be complete without getting the

perspective of patients and their daily lives with these mental illnesses. The second panel will bring us some of these insights. Thank you for being here with us today.

MR. DEAL. Mr. Allen is recognized for an opening statement.

MR. ALLEN. Thank you, Mr. Chairman, for convening this hearing to examine the progress our Nation has made in identifying and treating mental illness and brain disease. Mental illness can have a devastating impact on Americans from all walks of life. One in five Americans is affected by mental illness.

This hearing can help raise awareness, ease the stigma of mental illness, and let patients and their families know there is hope. Since 1996, Congress has been working to pass bipartisan legislation to ensure that Americans have access to affordable mental health care.

Though it is not the focus of this hearing, I want to point out that H.R. 1402, the Paul Wellstone Mental Health Equitable Treatment Act of 2005, has 227 cosponsors. I hope that our committee will hold a hearing on that bill later this year.

Lack of access to mental health treatment as a result of insurance discrimination costs our economy more than \$100 billion each year through absenteeism, turnover and retraining expenses, lower productivity, and increased medical costs.

There is no scientific or medical basis that justifies insurance coverage of mental health disorders on different terms and conditions than other coverage for other illnesses or disorders. The State of Maine has been a leader in this area by requiring that insurers provide the same level of coverage for mental health care as for other illnesses.

We also need to invest more funding in medical research to diagnose, treat, and find cures. Of great concern to me is the lack of mental health professionals, particularly in rural areas, and especially those who treat children with mental illnesses, a major problem in my home State of Maine.

I look forward to hearing our distinguished panel share their experience and expertise. Together we need to find ways to build a comprehensive, efficient system to identify, evaluate, diagnose, and treat mental illnesses at every stage of life and ensure that all Americans have access to mental health services.

With that, Mr. Chairman, I yield back.

MR. DEAL. I thank the gentleman. The bell, as you heard, we have a motion to adjourn on the floor which we will need to go vote on. But before that, I am going to ask unanimous consent of the subcommittee that one of the members of our full committee be allowed to make an opening statement. He is a licensed clinical child psychologist and that is Mr. Murphy.

Without objection, Mr. Murphy will be recognized for 3 minutes to make an opening statement, and then we will go vote and return.

MR. MURPHY. I thank the Chairman for this opportunity. We heard over and over again mental illness is a real and not imagined problem, as real and devastating to a family as any other medical illness. It can lead you to lose a job. It can lead you to lose your family and cost business productivity. In fact it can cost employees billions and it does cost lives.

And yet, it is more treatable than many other medical diagnoses. If we ignore it, mental illness can both increase the risk of heart disease and if mental illness is untreated it can double the cost of healthcare. Without integrating the care of the body with the care of the brain, our current system is wasting billions of dollars.

But the private sector has time and time again demonstrated that direct healthcare cost savings can save money as well as productivity. One study reported that when depression management was included in their health plans productivity increased over 6 percent and absenteeism declined 28 percent with a savings of over \$2,000 per employee.

When workers with depression receive treatment, medical costs declined by over \$800 per employee. But untreated mental illness costs about \$300 billion, according to the National Institute of Mental Health. It is \$150 billion from lost workdays and premature death, \$70 billion in emergency care and \$80 billion from societal costs such as the justice system. The success in treatment requires proper and timely treatment and treatment is not just a matter of medication.

For example, there was a past concern with use of one antidepressant medication associated with increased adolescent suicide risk, and it shows you how partial treatment and misunderstanding of mental illness actually cause harm. Antidepressant medications change mood but they don't change your mind. Psychotherapy performed by a qualified practitioner is also needed to properly treat patients. But when only 25 percent of antidepressive medications are prescribed by a psychiatrist and 75 percent of the time by a nonpsychiatrist and many cases people do not receive the additional psychotherapy treatment, then the prognosis remains low. So when health plans do not cover mental health treatments, including Medicare, the diseases of mental illness cannot be treated properly.

Now I urge us to also look at those businesses who have found great success in providing this care. AT&T, American Airlines, IBM, and PepsiCo are among those companies who have found that good mental health care is good for employees and good economics for the business. The time has come for us to improve mental health care by integrating and coordinating medical and mental health services for more effective diagnosis and treatment rather than just shifting the burden to pay for

healthcare or just calling for more money. Congress can lead the way to save lives and money through integrated care.

I look forward to working with my colleagues to transform our health care system, to spend dollars wisely, rather than just spend dollars.

And I yield back, and I thank the Chairman.

MR. DEAL. Thank the gentleman. Mr. Gillmor, I believe you indicated you would waive your opening statement. I believe all members who are here have given their opening statements. So we will stand in recess pending the completion of the vote. At that time we will resume with our first panel. Committee will stand in recess.

[Recess.]

STATEMENTS OF THOMAS INSEL, DIRECTOR, NATIONAL INSTITUTE OF MENTAL HEALTH, NATIONAL INSTITUTE OF HEALTH, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES; RAYMOND DEPAULO, DIRECTOR, DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES, JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE; KAY JAMISON, AUTHOR AND FOUNDER, UCLA AFFECTIVE DISORDERS CLINIC; AND DIANE GOODING, ASSOCIATE PROFESSOR, UNIVERSITY OF WISCONSIN

MR. DEAL. I am pleased to introduce the members of our first panel.

Dr. Thomas Insel, he is the Director of the National Institute of Mental Health where he has served in that capacity since 2002; Dr. J. Raymond DePaulo, recognized as one of the world's foremost investigators into the genetic basis of affective disorders such as manic depression, depression, and panic disorder; Dr. Kay Redfield Jamison, author and founder of the UCLA Affective Disorders Clinic. Dr. Jamison struggled with bipolar disorder during her teenage years, successfully completed her Ph.D., and is now a professor of psychiatry at Johns Hopkins School of Medicine and Co-Director of the Johns Hopkins Mood Disorders Center; Dr. Diane Gooding, Associate Professor at the University of Wisconsin at Madison, and her research focuses on schizophrenia and schizophrenia spectrum disorders as well as early detection and prevention measures for mental illness.

We are pleased to have all of you here, and we will start with Dr. Insel.

Your written testimony is made a part of the record. It will be available for Members to read. We would ask if you would summarize during your 5 minutes allotted for your testimony.

DR. INSEL. Thank you, Chairman Deal and Ranking Member Baldwin, and thanks especially to Congresswoman Myrick for pulling us all together. I think your leadership here is very important to everybody.

I will keep my remarks relatively brief given the time. I am Dr. Tom Insel, Director of the National Institute of Mental Health, a component of the NIH of the Department of Health and Human Services that is tasked with the responsibility of developing improved methods of diagnosing, treating, and preventing mental disorders, including schizophrenia, autism, and mood and anxiety disorders.

I am delighted to have an opportunity to be here today. As you mentioned, my testimony has been submitted for the record, so let me share with you a few thoughts.

I spent yesterday afternoon at a memorial service for a 23-year-old young man with schizophrenia who killed himself in our hospital. This was a truly tragic event for a young man with a tremendous amount of promise. He was from Tucson, Arizona, and as many other people have done who come from all over the United States, he came to the NIH Clinical Center to get what is arguably the best care available in the United States.

This was a fellow who was a creative, tremendously compassionate young man who had struggled with schizophrenia since about the age of 19 and had been in and out of various treatment programs. When he finally came to us, it was with the hope that he would be able to reach a satisfactory stage of recovery--everybody was hoping for that.

He spent 6 months in our hospital with intensive treatment, including a whole range of experimental and available medications. And 2 days before his discharge, he jumped to his death. This was, as Ms. Myrick mentioned before, an event that is sort of like dropping a pebble into a pond because it affects so many people, not just his family. Whenever there is a suicide, there are many, many victims. And in this case, it has been a huge event for the NIH community, particularly for those who worked with this fellow and the people who cared for him.

At the memorial service yesterday, what I began to think about was how important it was for us to recognize that, at a time like this, when we have had such a focus on the need for providing better access and providing better services and making sure that young people have the best treatments that are available, we also need to recognize that for this young man getting the best treatment at the best place, we still had the worst outcome.

What that says to me is, we are really not where we need to be yet. We need to do much more to be able to make sure that we have better treatments for the people who suffer with these very, very serious diseases.

So I come here really with a very heavy heart as someone who is responsible for being able to deliver those treatments in order to make life much better and ensure recovery for those with serious mental illness.

In all fairness, however, I need to tell you that I also come here with a lot of hope because I believe in the same heart that we have now the opportunities that we have never had before.

You heard from your colleagues this morning that there is an increasing recognition in the decade following the Decade of the Brain that these are brain disorders, that mental disorders are brain disorders, a simple and profound truth that has completely altered the way that we approach diagnosis and ultimately will alter the way we treat them.

We recognize that these are chronic disorders. But unlike many other chronic disorders in medicine, these are the chronic disorders of young people: 50 percent start by age 14; 75 percent by age 24. This is very different from Alzheimer's disease, Parkinson's disease and other neurological brain disorders that we think about. The other difference is that these are brain disorders, but they are not brain disorders where a focal lesion can be identified. These are disorders of brain systems.

The good news is that we now have the tools to be able to understand how brain systems go from being normal to abnormal. We have the tools of genomics which give us some of the molecular candidates that we need, and we have the tools of brain imaging that allow us to look inside the brain. It is no longer a black box, and we can begin to understand where something has gone wrong in those that suffer with these disorders. Finally, the last thing that I would like to say to you, besides the fact that these are chronic diseases and clearly brain disorders, is that we now have the ability to study them.

I have submitted for the record a lot more information to back up those statements, including a set of pictures that I hope you will take a look at that show where some of those abnormal circuits appear to be. I will leave those with you. I will not go through the slides.

But I do want to suggest that we also have a real need to change the way we think about these illnesses. If you can go to the second to last slide, what I would like to suggest is where we want to go as we think about this and the future and why I have such great hopefulness. We need to go from the point where we are now, where we diagnose by symptoms and treat by episode, the way we were with heart disease and cancer 30 years ago, to the point of understanding the underlying pathophysiology, that is, the biological mechanisms, of these illnesses, the way we do now for cancer. That will give us, as indicated on the next slide, both the biodiagnostics, biomarkers, and the treatments that really do go after the core pathology.

The goal here is personalized care, just as it is for cancer. And what I would like to suggest is that we can actually for the first time envision what prevention would be like if it is strategic and what we call cure therapeutics.

The bottom line is that the hopefulness comes from having the tools to be able to do that. We have those tools, and we have been using them in a very effective way for other brain disorders. We have been using them for cancer and heart disease. We can do this. That will be happening over the next 5 years.

Finally, we need to find ways to translate those discoveries to practice, and that is going to be one of the great challenges we will face, even when we get the new tools that we currently use. We will have new discoveries, and that will make a major difference.

I want to thank you again for having us to this subcommittee hearing. I think that your leadership in this area will be extraordinarily important for those millions of people who suffer with these brain disorders. For me, the bottom line is that through research we do have the opportunity to envision this moment of hope and we have opportunities that we have never had before in thinking about how to approach these illnesses. Thank you.

[The prepared statement of Dr. Thomas Insel follows:]

PREPARED STATEMENT OF DR. THOMAS INSEL, DIRECTOR, NATIONAL INSTITUTE OF
MENTAL HEALTH, NATIONAL INSTITUTES OF HEALTH, U.S. DEPARTMENT OF HEALTH AND
HUMAN SERVICES

Chairman Deal, Ranking Member Brown, Mrs. Myrick and members of the Subcommittee: I am Thomas R. Insel, M.D., Director of the National Institute of Mental Health (NIMH), the component of the National Institutes of Health (NIH) of the Department of Health and Human Service (HHS) tasked with responsibility for developing improved methods of diagnosing, treating, and preventing mental disorders, including schizophrenia, autism, and mood and anxiety disorders. Thank you for giving us this opportunity to share our excitement about progress in understanding mental illnesses.

Mental illnesses are brain disorders, with specific symptoms rooted in abnormal patterns of brain activity; like other medical disorders, they are diagnosable, and they are treatable. This is critical, given the tremendous burden mental illnesses exert personally, socially and economically. Unlike most chronic medical disorders, mental disorders most often begin in adolescence and young adulthood. Without proper treatment they can devastate individuals and their families. Despite this dour background, there has been significant advancement in the science of mental illness. We have reliable diagnostic tools and effective medications and psychological therapies for depression and anxiety disorders; we have treatments that can predictably reduce the hallucinations and delusions of schizophrenia, as well as psychosocial interventions that enable people with disorder to remain in their communities, to work and lead productive lives.

We referred to the 1990s as the "Decade of the Brain," based on a Congressional Resolution signed by President George H.W. Bush on July 17, 1990. It was a period of major growth in neuroscience, revolutionizing the way we think about the brain. We

were able to demonstrate that mind and body cannot be separated, that mental activity can be represented as brain activity, and that a clear distinction cannot be made between mental events and neural events. One implication of this revolution is the recognition of mental disorders as brain disorders.

For example, studies of children who have the onset of a rare form of schizophrenia before age 14 show a marked change in brain structure. When they were initially seen in the clinic in the NIMH intramural program at about age eight or nine, they had already shown some thinning of the part of the brain called the cerebral cortex, compared to the cortical thickness of other eight- and nine-year-olds. Scans of their brains over the next five years demonstrated a profound loss of cerebral cortex relative to the brain scans of normal children of the same age. This provided strong evidence that childhood-onset schizophrenia involves loss of brain matter in a manner similar to other neurological or neurodegenerative disorders. The difference is that in most neurological disorders, such as Parkinson's disease, there is a specific site of damage. But, schizophrenia, bipolar disorder, depression and autism seem to be disorders of networks, or circuits, rather than of specific cells identifiable by brain scan.

NEW FINDINGS

Genes and Neuroscience

Since mental disorders are brain disorders, we have been exploiting the power of genomics and neuroscience to solve the mysteries of the mind. The Human Genome Project in 2003 provided a full map of the 23,000 genes common to all humans. The next vital map, which has just become available in the past few months, comes from the International HapMap Project, whose goal is to chart all of the common points of variation in the human genome. This new map of variation should give us the clues for understanding how one person is susceptible to a mental disorder and another is resilient. Genetics and neuroscience together give us the tools for predicting risk, validating diagnosis, and identifying targets for new, more effective treatments.

Gene-Environment Interactions

We have learned that genes confer susceptibility; but environmental factors, such as the loss of a loved one, traumatic events, or physical attributes of the fetal environment, also exert a powerful influence on the development of mental illness. The complexity of this interaction is apparent in a serotonin gene that has been associated with depression. A particular segment of the gene comes in two forms; people with the "short" form are about two to three times more likely to get depressed when also faced with severe life stressors, such as death of a family member or loss of a job. Conversely, if a person has the other "long" form, they appear to be protected, even when faced with four or more severe life stressors. With the protective form, a person is actually no more likely to develop depression than if he had experienced none of those events.

Researchers are now asking how environmental factors during critical phases of development exert long-term effects on how and when genes are activated. Exploring how genes interact with the environment to result in a mental disorder such as depression is not much different from understanding how environmental toxins contribute to illness. However for mental disorders, the trigger may be stressful experiences, the exposure may only have an impact at specific stages of development and the effects may be limited to a narrow range of cells in the brain.

Brain Systems

With the advent of neuroimaging, we can, for the first time, look at the activity of brain circuits during illness and map how activity changes during recovery. Advances in neuroimaging in the past 5 years have provided more detailed pictures and the ability to see events almost in real time. For instance, imaging has recently revealed that a brain

region called Area 25 is important in depression. In depressed people, both volume and metabolic activity in this region are abnormal. As people recover from depression, activity in Area 25 undergoes significant changes. Whether the treatment is an antidepressant medication, behavioral therapy, or deep brain stimulation, recovery is associated with a reduction in the activity of this brain circuit.

Clinical trials

In addition to searching for new targets for treatments to help people in the future, we have been working to use current treatments more effectively, identifying those who will respond best to the treatments available now. Over the past seven years, NIMH has completed several practical clinical trials that are the largest and longest of their kind, involving more than 10,000 patients at more than 200 sites. These studies were designed to examine not only changes in symptoms but changes in functioning, to determine whether a treatment improves quality of life, care giving burden, or use of health services.

These studies have already demonstrated the effectiveness of antidepressant medication for adolescents with depression and the value of an off-patent, inexpensive antipsychotic medication for adults with chronic schizophrenia. These clinical trials are part of a rigorous effort to discover what therapies work best, and for whom. Current research is discovering how individual differences in biology could determine how that person reacts to a certain medication. Discovering these individual differences will help improve and personalize both diagnosis and treatment. For a person with mental illness, one can imagine that in the future a physician would perhaps use a memory task together with brain imaging and a genetics test to diagnose and select a specific treatment -- just as a contemporary cardiologist uses a stress test and echocardiogram to diagnose heart disease and select the proper treatment.

THE FUTURE

It is critical to realize that this vision of personalized care does not mean designing exotic therapies for a few privileged patients. The ultimate goal is personalized care for the full spectrum of people with mental disorders. As researchers learn more about the brain mechanisms of mental disorders and related behavioral and environmental factors, treatments will become more specific.

These are some of the issues that will be addressed by the newest generation of NIMH researchers. In the 60 years of NIMH's history, there has not been a more exciting time. We are on the verge of significant advances that will move us closer to predictive, preventive, and personalized mental health care grounded in research.

We are also striving to assure that evidence-based practices can be disseminated and delivered, so that people have access to treatment and services that are coordinated and effective. We are working within NIH to better integrate psychiatry with the rest of medicine, for they are inextricably linked: stress and depression are major risk factors for heart disease and other serious medical conditions. The mechanisms underlying these relationships are not yet clear, but integration will be a significant step toward improved care of the whole person by an effective treatment team.

I firmly believe we have made a great start in understanding mental illnesses and that in our lifetimes we will be able to treat and even prevent mental illnesses with much greater certainty and speed. This will restore productivity, make families whole, and eliminate many of the 30,000 suicide deaths each year.

Thank you for providing me the opportunity to discuss these issues with you. I will be happy to answer any questions you may have.

MR. DEAL. Thank you.

Dr. DePaulo.

DR. DEPAULO. Chairman Deal, Representative Baldwin, Representative Myrick, thank you very much for holding these hearings and thank you for inviting all of us to speak this morning.

I am Ray DePaulo, Professor and Chairman of the Department of Psychiatry at Johns Hopkins, and I have been lucky enough to focus my own clinical and research career on bipolar disorder and depression. And that is what I will focus my remarks on today.

Because of this focus and the ability to do these sorts of things at a place like Johns Hopkins, I have now had the chance to see about 10,000 patients with depression and bipolar disorder.

I know from seeing them, but also from the research we have done on the brain and the genetics research I have participated in, that these are certainly brain diseases, as certainly as pneumonia and asthma are lung diseases.

I am also confident that, as Dr. Insel has laid out for you, that research can illuminate the molecular pathways to these diseases and that those molecular pathways will provide for us a way to design better diagnoses, better treatments and attempt prevention.

If I can show my first slide, I want to make a little bit of the case that depression, if you will, bipolar disorder and we can certainly say schizophrenia are the cancer of the 21st Century. Going back to the 1960s when I was a medical student at Johns Hopkins, I can tell you, cancer was prevalent then, and it is certainly prevalent today. Both have a rate of somewhere in the range of 5 to 10 percent. Both of these diseases, as has been said several times, have great impact on families, not just the patients.

Cancer was stigmatized, and depression still is. In 1960, there was very little support for research on cancer. It was a mysterious disorder, and people thought it was hopeless. Today, research on depression and other psychiatric disorders is still under-supported. Are they mysterious? Yes. Are they hopeless? Absolutely not.

The cancer treatments in 1960 were not very effective, and they were very poorly understood. Our treatments for depression and bipolar disorder and schizophrenia today are fairly effective, not as effective as we would like and not as good as they should be, but they are very poorly understood. We don't know why they work when they work and why they fail when they fail.

Next slide. The World Health Organization has now included mental illnesses on its list of diseases to study around the world. They have shown that of the top ten causes of disability worldwide, five of them are mental disorders. Unipolar or major depression, that is, major depression is number one on their list. Alcoholism is number four. Bipolar disorder

by itself is number six. Schizophrenia is number nine, and obsessive-compulsive disorder is ten. That is a very telling feature. They wouldn't have seen that if they didn't include these.

The next slide. Another part from their study is to look at the ten leading causes of social burden in the developed countries, and again, I apologize that these are not easy to see, but four or five of these are clearly related to mental health. Unipolar depression again is number two. Road traffic accidents, which are highly involved with alcohol and alcoholism, are four and five on that list. Dementias due to Alzheimer's and other diseases are number eight, and self-inflicted injuries are number nine on the causes of total social burden on society.

You have also heard that depression by itself is an independent risk factor, an important one for heart attacks and for strokes. So these are medical diseases, and they lead to other medical diseases.

The next slide, some numbers and again hard to read on your monitor, is that the ultimate cost of these disorders is, as Tom Insel has said, is suicide.

Actually, what I think is the best population study of suicide ever done was done in a little town in Sweden where everybody was interviewed by psychiatrists three times 25 years apart. Over those 25 years, they kept track of lots of things that happened to these people, including suicide.

The good news is that 75 percent of the interviews had no psychiatric diagnosis, but the revealing thing is that suicide rates in people with any psychiatric disorder were ten times greater than the population rate. For those with bipolar disorder and depression, they were 80 times greater.

So this is a dose response curve to show you the impact of these diseases.

Let me conclude with my last slide and again talk about depression which I believe is the cancer of the 21st Century. It was cancer biology, the molecular biology of cancer, and epidemiology, that is population or public health studies, that illuminated the genetic and environmental pathways to cancer and have created logical treatment and prevention strategies for cancer.

The cancer centers, very important, clinical cancer centers have conducted the largest and best done clinical trials of treatments that have ever been done in the world anywhere, and I am saying this because I think this is what our future should be in mental disorders as well.

Depression biology is human brain biology, and as Dr. Insel has noted, that is now possible, and it is occurring, and we are in the early days, but it is occurring. What we need is to take those tools and turn them into what is called translational research. Translational research, a term that comes from cancer research by the way and the war on cancer,

means developing new interventions, new diagnoses, markers, and treatments based on what we discover in the biology of the disorder. This is really required.

So what do we need to do that? What we need to do is, certainly, yes, more research. That will require more funds, but it requires more than that. We also need more careers devoted to these disorders, and we need more public education.

I really appreciate both the turnout here but also the statements that the Members have made that said that public education is a priority for all of us.

As well, we do depend, because these are diseases, on the general progress of medical research, both at the level of molecules and at the level of public health. I want to thank you for the opportunity to testify today.

[The prepared statement of Dr. Raymond DePaulo follows:]

PREPARED STATEMENT OF DR. RAYMOND DEPAULO, DIRECTOR, DEPARTMENT OF
PSYCHIATRY AND BEHAVIORAL SCIENCES, JOHNS HOPKINS UNIVERSITY SCHOOL OF
MEDICINE

Representative Deal, Ranking Member Brown, Mrs. Myrick and the Members of the Health Subcommittee: I am Ray DePaulo, Henry Phipps Professor and Chairman of the Department of Psychiatry at The Johns Hopkins University School of Medicine. I'm pleased to be invited here to speak about mental illness and brain disease. I have spent the last 30 years as a clinician, research, and teacher at Johns Hopkins focused on Depression and Bipolar Disorder, which are two of the serious brain diseases referred to as "mental illnesses". I will describe the prevalence and costs of these 2 conditions. I will explain why we are convinced that these are diseases of the brain (as surely as pneumonia and asthma are diseases of the lungs) and why I am confident that research will illuminate the molecular and structural pathways to these brain diseases and lead to much better ways to diagnose, treat and, in some cases, prevent these disabling diseases.

Major depression and bipolar disorder make up what are called mood disorders. The most recent estimate is that about 10% of Americans (and about 5% of adolescents) have had at least one episode of depression in their lifetime (Kessler et al, 2005). Most will have multiple episodes of depression and one in 10 of them will have one or more severe manic episodes. When depressed, patients experience a low, anxious, or apathetic change in their mood, inability to enjoy things that normally give them satisfaction or pleasure, a loss of energy, reduced ability to sustain attention & concentration, as well as a very negative change in their view of themselves and of the future. These symptoms, if untreated, last for several weeks up to a few years and like asthma or epilepsy once begun, they tend to recur. Most worrisome, patients with severe depressions often contemplate or attempt suicide. Of those who complete suicide most have depression and 90% have one or more diagnosable mental disorders based on information gathered about them prior to the suicide. Before he served in Congress, Abraham Lincoln had 2 well-documented periods of depression (or melancholia as it was called then). During these 2 periods, each lasting several months, he was taken in by relatives on a farm in Kentucky where someone was always with him to keep him from throwing himself into the river. But everyone has moods and some must be worse than others. Why do we say that clinical forms of depression, namely major depression and bipolar disorder are brain diseases? As defined in Webster's dictionary, a disease is a set of clinical symptoms that

are directly attributable to an abnormal body part (called pathology). The part of the brain that is malfunctioning in depression is not a single spot but a set of circuits in the brain in the frontal areas that are known because of both modern brain imaging methods show this (Mayberg et al, 2005; Drevets et al, 1997; House et al, 2000) but also from the known brain lesions of Parkinson's Disease and of stroke. Over half of patients with Parkinson's disease (which injures the basal ganglia in the subcortical regions of the frontal lobes) experience episodes of depression after their Parkinson's disease onsets and in stroke patients; the likelihood of clinical depression in the immediate aftermath is related to which area of the brain is injured by the stroke. Most cases of depression though are not caused by direct injuries to the brain, but by a combination of genetic and environmental factors that affect the structure and function of key circuits in the frontal areas of the brain. In this sense, depression is like asthma, it's largely genetic in origins but its exacerbations are usually caused by changes in the environment. For asthma patients this is often dust or pollen while for depressed patients psychological stressors are the most frequent environmental triggers. For asthma patients, when a severe attack occurs, removal of the dust or pollen is not sufficient therapy; medical treatment is needed to bring the patient back to normal breathing. Severe depression it is the same, the patient will need counseling and medications usually to achieve a remission sufficient to return to functioning. And longer term treatment between episodes is needed for many patients with asthma and with depression. Because we cannot as physicians control the flow of pollen or psychological stresses (which by themselves are not bad things for most people) it is important that we find the genes whose malfunction is ground zero on the pathway to these diseases. In depression because we don't understand why our medications help when they do help and why they fail in other cases, we need the molecular clues that genes can provide to make our treatments more effective. Genes which are molecules of DNA direct cells to make particular proteins. The proteins make up the structure of brain cells, brain pathways and circuits, and when they malfunction they make the brain vulnerable to stresses which can set off episodes of psychiatric illnesses such as depression. Understanding how this works can't help but make us better at making diagnoses and giving the right treatments to the right patients. The molecular formulas should tell us much about which patients will respond to which of today's treatments and which will not. They should also guide us to create new treatments which would be "engineered" rationally based on knowledge of what is wrong in the brain, not just in the emotions or behavior of the patient.

Depression and bipolar disorders are common diseases like cancer and like cancer they have many different forms caused by several different genes and several distinct environmental toxins acting in combination. Like cancer, therefore, the big breakthroughs will not be cheap or easy and we can expect challenges at many steps. The War on Cancer was the right decision by Congress at the right time (1971) and it has led to a great deal of progress so that cancer deaths are finally falling and many forms of cancer are now detected early and cured and even severe cancers can be managed much better than they were 35 years ago. The key breakthrough that made the war on cancer possible was the discovery of the genetic code (called codons) which allowed pathologists who looked at tumors under the microscope see where the cellular mechanisms went astray, in the DNA, the RNA, or at the protein level itself. Thus pathologists and cancer experts could "interrogate" the tumors. However this technology was not sufficient to allow us to interrogate the living brain. Now with the genome project largely completed and the brain imaging methods progressing (and incorporating the imaging of proteins in the brain) we can now see how we might look into the mechanisms of depression like we have illuminated so much of the pathway to various forms of cancer. And as we have done with cancer patients, we now are much better at predicting which patients will respond to old treatments (radiation and hormonal manipulations) and we have also devised many new treatment strategies (immune

therapies and new less toxic chemotherapies) that we never imagined before the molecular war on cancer was begun.

This description of depression (and Bipolar disorder) as today's "cancer" is very appropriate. When I started medical school at Johns Hopkins in 1968, there were only 4 cancer doctors on the staff. Cancer was a word that many doctors would not utter to their patients with cancer for fear of the stigma. Patients who were admitted with late "metastatic" cancers were often put in the room farthest from the doctors and nurses, not because the doctors or nurses didn't like them, but because they didn't know what to say and they thought there was nothing useful that they could do. Today, we understand cancer and although it is still a serious and often fatal condition there is no sense of cancer as a death sentence or as a stigma on the family whose relative suffers from it. At Johns Hopkins now there are over 200 cancer doctors and now 3 cancer buildings, reflecting the progress and the optimism we have about further progress in cancer. It has not been cheap or easy going. Cancer has not been eradicated and may never be fully eradicated but no one can deny the progress and the difference it has made to patients, families, and to society. We understand it so much better and, therefore, we are continuing to find new ways to prevent it, to detect it early, to cure it, and to make life meaningful and substantial as we manage some forms of it now as a chronic disease rather than as a death sentence.

The World Health Organization global burden of disease study has demonstrated that depression is the leading cause of disability world wide and that 5 of the top ten causes of disability are psychiatric disorders (depression, alcoholism, bipolar disorder, obsessive compulsive disorder, and schizophrenia). It has predicted that by 2020 depression will be "the second most debilitating disease worldwide, after ischemic heart disease, and one of the leading causes of death, as suicide takes more lives than traffic accidents, lung disease, or AIDS." Cardiovascular disease receives the largest amount of government funding, 25 percent; diabetes gets about 8 percent and cancer a little over 6 percent, while all mental illnesses (which includes all of the conditions noted by the W.H.O. and many more) receives only 4 percent.

Of those who suffer from depression year, approximately 74% (or 7.8 million) of them are in the workforce. This has numerous implications as far as the potential strength of our economy, should this group of individuals have access to the mental health care they require. Furthermore, workers with depression have a much higher rate of missed days than their healthy counterparts. On average, depression accounts for a 2.5 fold increase in the probability of missing work as a result of their illness (Langlieb and Kahn 2005). In 2000, depression alone was estimated to cost the US economy \$83.1 billion each year, most of it due to absenteeism and decreased productivity at work (Greenberg et al 2003).

The issue of mental health care is particularly timely as our nation is in the midst of the War on Terrorism. The primary goal of terrorism is not simply kill Americans, which can be done only on a small scale by our adversaries. The goal is to wage psychological war that will sap our citizen's morale and confidence in our civilization. Although depression and many forms of anxiety disorders have strong genetic components they also have strong environmental triggers. The events of September 11, 2001 created an enormous amount of mental anguish for those working in and living around the World Trade Center and the Pentagon. Numerous studies were published soon after these events describing both civilian and military response to these unspeakable attacks. Among of the 1008 adults randomly telephoned who reside near the World Trade Center, "9.7 percent reported symptoms consistent with current depression" (Galea et al 2002: 982). In a study on civilian and military employees of the Pentagon, 17.7 percent of respondents reported depressive symptoms following the attack events of 9/11 (Jordan et al 2004). This rate is higher when you examine the experiences of military personnel returning from the war in Iraq. When examined for mental health following deployment

to Iraq, 19.1 percent of those questioned screened positive for depression (Hoge et al 2006). These numbers indicate a strong need for mental health care among those indirectly and directly affected by the events on and following September 11, 2001. It should be noted, as well, that a recent article in the New York Times reported an epidemic of depression and post-traumatic stress disorders in New Orleans following Hurricane Katrina. This mental health epidemic has led to a three-fold increase in the suicide rate from that before the hurricane (Saulny 2006). Lack of resources in this area is compounding the problem and greatly taxing local mental health experts.

The need for research on disorders of mood disorders (and the other mental disorders as outlined by Dr Insel) is vital for our troops and to all American citizens. About 15 million people (10 million women and 5 million men) in the United States at any given time have major depression or some form of manic depression. The prevalence for depression runs very high, as do the costs to the individual and the country as a whole. It is imperative that we invest more time and money towards this "Cancer of the 21st Century," so that treatments can lead to cures and hopes into reality.

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MR. DEAL. Thank you.

Dr. Jamison.

DR. JAMISON. Yes, I am delighted to be here. Thank you, Mr. Chairman. Thank you, Ms. Myrick. Someone called her a great agitator. She is a great agitator and a wonderful human being who has been very supportive of mental health causes.

My name is Kay Redfield Jamison, and I am a Professor of Psychiatry at the Johns Hopkins School of Medicine. My clinical and research interests lie in the study of mood disorders, especially bipolar disorder, and in the study and prevention of suicide.

My written testimony includes some basic information about bipolar disorder, but I am here really to talk about my own experiences with manic depressive illness and to strongly advocate for increased research funding.

Although we know much more about this illness than even 5 years ago, thanks in significant measure to the excellent research efforts of NIMH, there is far too much we do not know. Only an aggressive and concerted effort to study the underlying causes of bipolar illness, particularly genetics, will result in earlier and more accurate diagnosis and better treatment.

But I would like to speak now at a more personal level. Like most people, I had absolutely no reason to expect that I would become so seriously, so terribly mentally ill. I certainly had no preparation for insanity. No one does. I came from a military and very traditional

family, and although I have a very extensive family history of bipolar illness, nobody in my family talked about it.

I had a healthy, active, and very happy childhood and adolescence. I loved school and did well at it. I loved sports, was a school leader and captain of all my teams. Then in my senior year of high school, after a period of much, much, much enthusiasm and not much sleep, I became deeply depressed, suicidal, and psychotic. I had never thought of suicide or death before, and now I thought of little else. For much of each day, during several months of my senior year in high school, I thought about when, whether, and how to kill myself.

Over the years, my manic-depressive illness became much, much worse, and the reality of dying young from suicide became a dangerous undertow in my dealings with life. Then when I was 28 years old, after a particularly damaging and psychotic mania followed in turn by a particularly prolonged and violent siege of depression, I took a massive and, because I was a lithium researcher, what I knew to be a lethal overdose of lithium. I unambivalently wanted to die. I nearly did die. I was in a coma for many days.

Yet I have been fortunate. My illness responds very well to lithium, and I have been well for more than 20 years. I have had the best medical care available. I have had access to that care, and I have been able to afford to pay for that care. Most people cannot.

My family, friends, and colleagues have been surpassingly supportive. Most people are not so lucky. I would like to end with a few beliefs and a few concerns.

As a clinician, I believe there are treatments that can and do save lives. As one surrounded by scientists whose explorations of the brain are eloquent and profound, I believe that our basic understanding of the brain's biology is radically changing how we think about both mental illness and suicide. As a teacher of young doctors and graduate students, I feel the future holds great promise for the intelligent and compassionate care of the seriously mentally ill.

Still, the effort to develop new treatments for severe mental illness and to prevent suicide seem to me to be remarkably unhurried. Every 17 minutes in America, someone commits suicide. Where is the public outrage? Where is the public concern? I have become more impatient in recent years, and I didn't start off particularly patient, and I am more acutely aware of the problems that stand in the way of denting the death count. I cannot rid my mind of the desolation, confusion, and guilt I have seen in the parents, children, friends, and colleagues of those who kill themselves. Nor can I shut out the images of the autopsy photos I have seen of 12-year-old children or the prom photographs of teenagers

who will within a year's time put a pistol in their mouths or jump from the top floor of a university dormitory building.

Looking at suicide, the sheer numbers, the pain leading up to it, and the suffering left behind, is harrowing. For every moment of education and exhilaration in the science or in the success of governments, there is the matching and terrible reality of the deaths themselves: the young deaths, the violent deaths, the terribly unnecessary deaths.

Like many of my colleagues who study mental illness and suicide, I have seen time and again the limitations of our science. I have been privileged to see how good some doctors are and dismayed by the incompetence of others. Mostly, I have been impressed by how little value our society puts upon saving the lives of those who are in such despair as to want to end them.

It is a societal illusion that suicide is rare. It is not rare. Certainly the mental illnesses most closely tied to suicide are not rare. They are common conditions. And unlike cancer and heart disease, they disproportionately affect and kill the young. The tens of millions of Americans who suffer from mental illness deserve compassion and good science. The diseases from which they suffer deserve to be given the kind of research funding commensurate with the pain and death they cause. In short, they deserve action.

Thank you.

[The prepared statement of Dr. Kay Jamison follows:]

PREPARED STATEMENT OF DR. KAY JAMISON, AUTHOR AND FOUNDER, UCLA AFFECTIVE DISORDERS CLINIC

Good morning. My name is Kay Redfield Jamison and I am a professor of psychiatry at the Johns Hopkins School of Medicine and co-director of the Johns Hopkins Mood Disorders Center. I received my Ph.D. from the University of California, Los Angeles in clinical psychology, with a specialization in psychopharmacology. My clinical research interests lie in the study and treatment of mood disorders — depression and bipolar disorder—and in the study and prevention of suicide. I have also studied creativity and literature and have an appointment as Honorary Professor of English at the University of St. Andrews in Scotland. I am here today to speak about my own experiences with manic-depressive illness, also called bipolar disorder, and to strongly advocate for increased research funding for psychiatric illnesses. Before turning to my own experiences, I would like to give a very brief overview of what we know about bipolar disorder.

Manic-depression, or bipolar disorder, is a painful, common, and potentially lethal disorder of mood, thinking, energy, and sleep. It ranges tremendously in severity, from relatively mild expressions to extremely severe, life-threatening and psychotic forms of the illness. The depressive phase — like depression itself — is characterized by a profound lack of energy, apathy, hopelessness, sleeping far too much or far too little, difficulties in thinking, and a loss of pleasure in life. Suicidal and morbid thoughts, as well as undue guilt, are common.

The manic phase is characterized by symptoms in many ways the opposite of those seen in depression. Mood is elevated and expansive, or paranoid and irritable; activity

and energy levels are greatly increased; the need for sleep is decreased; speech is fast and excitable, and thinking is very rapid. Other common features of mania are spending large amounts of money, impulsive involvement in questionable endeavors, impatience, and volatility. In its extreme forms mania is characterized by violent agitation, bizarre behavior, delusional thinking, and hallucinations.

What, briefly, do we know about the causes, correlates, and treatment of bipolar illness? First, we know it is genetic. It runs in families. The scientific evidence that bipolar disorder is biological is indisputable. We also know also that the illness is potentially lethal. The mortality rate is very high. The suicide rate in untreated, severe bipolar illness is 10–15%; 25–50% of people with the disorder will attempt suicide at least once. It has been estimated that at least 70% of the adolescents who commit suicide suffered from a potentially treatable, major mood disorder.

Bipolar illness, like virtually all of the major psychiatric disorders, is an illness of youth; that is, the illness most frequently first occurs in late adolescence or the early twenties. The average age of onset is about 18 years. Men and women are equally liable to bipolar disorder, and alcohol and drug abuse are common. The illness is recurrent and, if not treated, is often progressive; that is, it will tend to worsen over time. About one percent of the population will develop the more severe form of bipolar illness; perhaps two to three percent will have milder forms.

Finally, and most important, bipolar illness is treatable. Most patients will respond to lithium, anticonvulsants, or a combination of anticonvulsants, lithium, and antipsychotic medications. Unfortunately, and unfairly, many people do not have access to good medical care, nor can they afford to pay for the medications that have been prescribed for them.

Although we know much more about this illness than we did even five years ago — thanks in significant measure to the excellent research efforts of the National Institute of Mental Health—there is far too much we do not know. Only an aggressive and concerted effort to study the underlying causes of bipolar illness will result in earlier and more accurate diagnosis and better, less problematic treatments.

I would like to speak now at a more personal level. Like most people, I had no reason to expect that I would become so seriously, so terribly mentally ill. I certainly had no preparation for insanity. I came from a military and traditional family and, although I had a very extensive family history of bipolar illness, no one talked about it. I had a healthy, active, and very happy childhood and adolescence. I loved school and did well at it, loved sports, was a school leader, and captain of all of my teams.

Then, in my senior year of high school, after a period of much enthusiasm and not much sleep, I became deeply depressed, suicidal, and psychotic. I had never thought of suicide before; now I thought of little else. For much of each day during several months of my senior year in high school, I thought about when, whether, where, and how to kill myself. I learned to present to others a face at variance with my mind; ferreted out the location of two or three nearby tall buildings with unprotected stairwells; discovered the fastest flows of morning traffic; and learned how to load my father's gun.

The rest of my life at the time — sports, classes, writing, friends, planning for college — fell fast into a black night. Everything seemed a ridiculous charade to endure; a hollow existence to fake one's way through as best one could. But, gradually, layer by layer, the depression lifted, and, by the time my senior prom and graduation came around, I had been well for months. Suicide had withdrawn to the back squares of the board and become, once again, simply unthinkable.

Over the years, my manic-depressive illness became much, much worse, and the reality of dying young from suicide became a dangerous undertow in my dealings with life. Then, when I was twenty-eight years old, after a particularly damaging and psychotic mania, followed, in turn, by a particularly prolonged and violent siege of depression, I took a massive, and what I knew to be a lethal overdose of lithium. I

unambivalently wanted to die, and nearly did. Death from suicide had become a possibility, if not probability, in my life.

Yet I have been fortunate. My illness responds very well to lithium and I have been well for more than twenty years. I have had the best medical care available and I have been able to afford to pay for it. My family, friends and colleagues have been surpassingly supportive; most people are not so lucky.

I would like to end with a few beliefs and concerns. As a clinician, I believe there are treatments that can save lives; as one surrounded by scientists whose explorations of the brain are elegant and profound, I believe that our basic understanding of the brain's biology is radically changing how we think about both mental illness and suicide; and, as a teacher of young doctors and graduate students, I feel the future holds out great promise for the intelligent and compassionate care of the seriously mentally ill.

Still, the effort to develop new treatments for severe mental illness and to prevent suicide seems remarkably unhurried. Every seventeen minutes in America, someone commits suicide. Where is the public concern and outrage? I have become more impatient in recent years, and am more acutely aware of the problems that stand in the way of denting the death count. I cannot rid my mind of the desolation, confusion, and guilt I have seen in the parents, children, friends, and colleagues of those who kill themselves. Nor can I shut out the images of the autopsy photographs of twelve-year-old children, or the prom photographs of adolescents who within a year's time will put a pistol in their mouths or jump from the top floor of a university dormitory building. Looking at suicide — the sheer numbers, the pain leading up to it, and the suffering left behind — is harrowing. For every moment of celebration for the science, or in the success of governments, there is a matching and terrible reality of the deaths themselves: the young deaths, the violent deaths, the unnecessary deaths.

Like many of my colleagues who study mental illness and suicide, I have seen time and again the limitations of our science, been privileged to see how good some doctors are, and dismayed by the incompetence of others. Mostly, I have been impressed by how little value our society puts upon saving the lives of those who are in such despair as to want to end them. It is a societal illusion that suicide is rare. It is not. Certainly the mental illnesses most closely tied to suicide are not rare. They are common conditions, and, unlike cancer and heart disease, they disproportionately affect and kill the young. The tens of millions of Americans who suffer from mental illness deserve compassion and good science. The diseases from which they suffer deserve to be given the kind of research funding commensurate with the pain and death they cause. In short, they deserve action.

Attachment: Biographical sketch

Kay Redfield Jamison

Kay Redfield Jamison is Professor of Psychiatry at the Johns Hopkins University School of Medicine and co-director of the Johns Hopkins Mood Disorders Center. She is also Honorary Professor of English at the University of St. Andrews in Scotland. She is the coauthor of the standard medical text on manic-depressive illness, which was chosen in 1990 as the Most Outstanding Book in Biomedical Sciences by the American Association of Publishers, and author of *Touched with Fire*, *An Unquiet Mind*, *Night Falls Fast*, and *Exuberance*. Her memoir about her experiences with manic-depressive illness, *An Unquiet Mind*, was cited by several major publications as one of the best books of 1995. *An Unquiet Mind* was on *The New York Times* Bestseller List for more than five months and translated into twenty languages. *Night Falls Fast: Understanding Suicide* was a national bestseller, translated into fifteen languages, and selected by *The New York Times* as a Notable Book of 1999. Her most recent book, *Exuberance: The*

Passion for Life, was selected by *The Washington Post*, *The Seattle Times*, and *The San Francisco Chronicle* as one of the best books of 2004 and by *Discover* magazine as one of the best science books of the year.

Dr. Jamison did her undergraduate and doctoral studies at the University of California, Los Angeles where she was a National Science Foundation Research Fellow, University of California Cook Scholar, John F. Kennedy Scholar, United States Public Health Service Pre-doctoral Research Fellow, and UCLA Graduate Woman of the Year. She also studied zoology and neurophysiology at the University of St. Andrews in Scotland.

Dr. Jamison, formerly the director of the UCLA Affective Disorders Clinic, was selected as UCLA Woman of Science and has been cited as one of the “*Best Doctors in the United States*”. She is recipient of the American Suicide Foundation Research Award, the UCLA Distinguished Alumnus Award, the UCLA Award for Creative Excellence, the Siena Medal, the Endowment Award from the Massachusetts General Hospital/Harvard Medical School, the Fawcett Humanitarian Award from the National Depressive and Manic-Depressive Association, the Steven V. Logan Award for Research into Brain Disorders from the National Alliance for the Mentally Ill, the William Styron Award from the National Mental Health Association, the Falcone Prize for Research in Affective Illness from the National Alliance for Research on Schizophrenia and Depression, and the Yale University McGovern Award for excellence in medical communication. She has been awarded numerous honorary degrees, selected as one of five individuals for the public television series “Great Minds of Medicine”, and chosen by *Time* magazine as a “Hero of Medicine”. She was Distinguished Lecturer at Harvard University in 2002 and the Litchfield Lecturer at the University of Oxford in 2003. She is the recipient of a MacArthur Award.

Dr. Jamison was a member of the first National Advisory Council for Human Genome Research. She is Senior Scientific Consultant to the Dana Foundation and Chair of the Genome Action Coalition, an alliance of more than 140 patient groups, pharmaceutical corporations, and biotechnology companies. She also serves on the National Committee for Basic Sciences at UCLA and is the executive producer and writer for a series of award-winning public television specials about manic-depressive illness and the arts.

MR. DEAL. Unfortunately, those bells mean we have another vote on the floor. People are playing games this morning. We have a motion that the committee rise that we have to go vote on.

Dr. Gooding, rather than try to hurry your testimony, we will go vote and come back and resume with your testimony after we return.

[Recess.]

MR. DEAL. The hearing will reconvene.

Dr. Gooding.

DR. GOODING. Thank you. Good morning, Chairman Deal and members of the subcommittee.

My name is Diane Gooding, Associate Professor of Psychology and Psychiatry at the University of Wisconsin, Madison.

My primary areas of research are identifying and validating indicators of heightened risk for schizophrenia and then identifying and studying at-risk individuals. While summarizing current schizophrenia research, I would like to illustrate the ways in which focusing on genetic

markers at risk for schizophrenia can help us to better understand and combat this devastating mental disorder.

Although there are currently some palliative treatments for schizophrenia, the specific biological mechanisms underlying the disorder are currently unknown, and the goals of schizophrenia research are focused on identifying the pathophysiology and etiology of the disorder and eventually preventing the disorder.

Contrary to earlier notions about schizophrenia, it is not due to bad parenting or personal failure. Schizophrenia is an equal opportunity disorder. It affects people of all socioeconomic groups, ethnicities, and races.

The typical age of risk is between late adolescence and early adulthood, and the consensus right now is that schizophrenia is a genetically mediated neurodevelopmental disease. We know that genes are necessary but not sufficient for the development of schizophrenia.

As a group, people with schizophrenia differ from healthy people in terms of their neurocognitive performance. People with schizophrenia show impairments in terms of executive functioning. For example, attention, inhibition, response planning, different types of memory, eye movements, information processing, and sensory gating.

We know that some of these neurocognitive impairments have the following characteristics: The ones that we see in schizophrenia in disproportionate numbers are relatively rare in the general population. They are heritable, and they are stable over time.

In the schizophrenia patients, these abnormalities are present during acute episodes as well as during symptom remission, and they are independent of medication status and chronicity. Also, these same abnormalities are present in higher proportions of the clinically unaffected biological relatives of the patients.

When neurocognitive impairments have all of these characteristics, we consider them to be markers of a genetic liability for schizophrenia, and we call markers of genetic liability endophenotypes.

It is really exciting right now in research because we are making a lot of progress in terms of identifying such endophenotypes. Examples would be eye-tracking abnormalities, working memory impairments, and sensory gating deficits.

Why would we want to study these? What are the advantages? Because these endophenotypes, these markers of genetic risk, are closer in the etiologic chain than symptoms, these markers can be an invaluable aid in the genetic dissection of the disorder. Currently, we know that genes are involved, but we don't know which genes are involved, how many genes need to be present, and how they affect brain development.

We also know that not everyone at heightened risk for schizophrenia goes on to manifest the disorder, so we can study endophenotypes to identify those individuals of heightened risk and study them over time, follow them to try to figure out why among the vulnerable individuals some of them succumb to the disorder and others are spared.

Moreover, we can use the study of endophenotypes to investigate whether certain indicators that have predictive validity at the population level also have predictive validity at the individual level.

We know that palliative treatment of schizophrenia can lead to considerable improvements in terms of quality of life, ability to live and work in the community, and studies indicate that the shorter the duration of untreated psychosis, the better the chances for more positive outcome.

Currently, there are research projects that attempt to intervene with individuals who show schizophrenia-like functional deficits early on but have not yet experienced psychotic symptoms. The goals of these early intervention programs are to detect early on emerging psychosis, to intervene to prevent further development of disfunction, psychological disfunction, to delay the onset of disorder if you can't prevent the further development of it and to reduce treatment delay at the first episode.

How do they get people into these studies? Well, it is based on an accumulation of risk factors, and they use a statistical risk-oriented approach, but we still don't know who our target population should be for these prodromal studies, and this is where markers can come in.

Also, through the use of risk factors and endophenotypes, we would know which ones are the best screening tools for inclusion into these early trials and how soon we should be including people. So at this point, we know that schizophrenia is a genetic disorder, and we are investigating the different neurocognitive impairments to identify the biological underpinnings of the disorder.

It is gratifying to participate in dispelling myths about schizophrenia and then educating the public about the disorder.

Chairman Deal, thank you for the opportunity to provide testimony to the committee on this important health topic.

And thank you, Representative Sue Myrick and Representative Tammy Baldwin, for your ongoing support of research and education in improving the lives of people with mental illness.

[The prepared statement of Dr. Diane C. Gooding follows:]

PREPARED STATEMENT OF DR. DIANE C. GOODING, ASSOCIATE PROFESSOR OF
PSYCHOLOGY AND PSYCHIATRY, UNIVERSITY OF WISCONSIN

Introduction

Good morning, Chairman Deal, Chairman Barton, and members of the Subcommittee. Thank you for inviting me here today to provide testimony on the biological basis of schizophrenia. My name is Diane Gooding, Associate Professor of

Psychology and Psychiatry at the University of Wisconsin-Madison. My primary areas of research are: identifying and validating indicators of heightened risk for schizophrenia and related conditions and identifying and studying individuals putatively at heightened risk for the disorder.

Defining schizophrenia

Schizophrenia is one of the most severe forms of psychopathology. It is a disorder that affects one's thoughts, feelings, goal-directed behaviors, social functioning, and even one's self-care. Since the early observations of Kraepelin [1896] and Bleuler [1911], schizophrenia has been regarded as a primarily cognitive disorder of neurobiological origin. It is an equal opportunity disorder, affecting individuals of all races, ethnicities, and socioeconomic strata. Although its prevalence is relatively low (1.1% of population aged 18 and older; APA, 2000), clinicians and researchers often regard schizophrenia as the "cancer of the mental illnesses" due to its severity, chronicity, societal costs, and personal costs to affected individuals and their loved ones. Clearly, schizophrenia is an important public health concern. Although there are some palliative treatments for schizophrenia, the mechanisms underlying the disorder remain unknown. If the long term goal is to prevent schizophrenia, then an intermediate goal would be to identify the pathophysiology and etiology of the disorder.

Diagnosing schizophrenia

There is no direct measure of the neuropathology of schizophrenia at present. Currently, the diagnosis of schizophrenia is made on the basis of symptoms, which are inferred based on the individuals' language and behaviors. There are symptoms which represent an exaggeration of normal functions, such as hallucinations, the false perception of sensory experiences (such as hearing voices, or seeing things that aren't there) and delusions, which are false beliefs that are persistent, unusual, and unshakable. Although most of the general public is aware of the florid symptoms of delusions and hallucinations, they have less aware of the symptoms of schizophrenia which represent the absence of normal functions and behaviors. These symptoms include amotivation/avolition (loss of motivation), anhedonia (loss of pleasure), alogia (reduced speech), affective impairments (such as loss or restriction of emotional display) and attentional impairment. The clinical picture of schizophrenia varies from patient to patient. Not all individuals with schizophrenia have the same constellation of symptoms and not all have the same severity of impairment. Despite the apparent heterogeneity of schizophrenia, there is a core underlying deficit; the core deficit in schizophrenia is a cognitive one.

The genetic basis of schizophrenia

Schizophrenia is not the result of the way in which a person is raised, nor is it the result of a personal weakness or failure on behalf of the affected person. Contrary to earlier notions about the causes of schizophrenia (e.g., the schizophrenogenic, ambivalent mother) schizophrenia is a genetically-based brain disorder. Family studies indicate that individuals who are biologically related to a person with schizophrenia are at much higher risk for developing schizophrenia. The risk of developing schizophrenia for a person who is related to someone with schizophrenia increases as a function of how many genes they share in common.

The role of genes in schizophrenia has been demonstrated by twin and adoption studies. In order to estimate the extent of the genetic component of any trait or disease, twin studies compare the concordance rate, or the likelihood of both twins having the same illness, between monozygotic (identical) and dizygotic (fraternal) twins. The greater the monozygotic twin concordance compared to the dizygotic concordance, the greater the inherited component. The risk for schizophrenia for a co-twin of a

schizophrenia patient is significantly higher (46 - 58%) for an identical (monozygotic) twin than for fraternal (dizygotic) twins (15%). Adoption studies demonstrate that a shared genetic component, rather than shared familial environment, contributes to susceptibility for schizophrenia. Adoption studies indicate that adopted-away biological offspring of schizophrenia patients are also at heightened risk for schizophrenia. These studies indicate that it's shared genes, not shared environments, that underlie the increased risk of schizophrenia in relatives of individuals with schizophrenia.

Genes account for approximately 68 to 85% of the underlying risk for schizophrenia (McGuffin et al., 1995). The consensus is that genetic factors that cause schizophrenia are necessary but not sufficient for the development of schizophrenia. One doesn't inherit schizophrenia; one inherits susceptibility to schizophrenia. Environmental risk factors are also important, and the genetic and environmental factors may interact. Nearly all of the theories of the genetic basis of schizophrenia are based on what we call a diathesis-stress model. In a diathesis-stress model there's a diathesis (or susceptibility) which is biological in nature. The manifestation of that diathesis is triggered by a stressor, which may be environmental (pregnancy and birth complications, early childhood brain damage such as ischemic attacks/hypoxia, early exposure to viral agents, use of psychoactive substances such as cannabis or amphetamines, or psychosocial stress).

In a complex disorder such as schizophrenia, there are likely to be many genes that are involved in predisposing people to the disorder. The genes may affect brain development, they may affect neurotransmitter systems, or they may affect individuals at both these levels. Investigators and theorists differ in terms of the number of genes that they believe are likely to be implicated in the underlying diathesis for schizophrenia.

While we can conclude that there's a strong genetic basis for schizophrenia, we have not yet identified the genes that are implicated. We are hopeful that new molecular techniques and modern statistical analyses can allow us to focus in on particular genes that confer risk to schizophrenia. The more genes that are associated with the disorder, the harder it will be to replicate associations between the disease and a given gene. However the search for "schizophrenia risk genes" has been made more difficult by the fact that at present most researchers rely upon the presence of symptoms (disease phenotype) to identify individuals who are most likely to possess the genetic diathesis (genotype). Indeed, progress in this area is stymied by the phenotypic heterogeneity of the disorder, i.e., the diversity in clinical presentation of the disorder, as well as the likely existence of etiological heterogeneity. It remains very possible that there are different causes for schizophrenia, all of which can lead to the same outcome (Gooding & Iacono, 1995).

Endophenotypes

The identification and use of heritable neurocognitive markers (known as endophenotypes; Gottesman & Gould, 2003) can be an invaluable aid in the genetic dissection of schizophrenia. Here are characteristics of these biobehavioral markers of liability: low prevalence among the normal population; genetic transmission; significantly higher proportion among affected individuals; stability over time; independence from clinical status (i.e., symptom remission vs. acute symptoms), and presence in unaffected relatives of affected individuals.

There are several advantages to the application of endophenotypes to the search for the biological basis of schizophrenia. First, endophenotypes may assist genetic studies of schizophrenia because they can provide a way to identify individuals carrying the genetic risk. Endophenotypes are believed to be closer in the etiological chain to underlying genetic factors than the symptoms of the disorder. Moreover, endophenotypes have associated brain regions and circuits that may provide further clues about the areas that are dysfunctional in the schizophrenic brain.

Examples of some promising markers of genetic liability for schizophrenia include: oculomotor deficits such as smooth pursuit eye tracking dysfunction and saccadic inhibition deficits; working memory impairments; and sensory gating abnormalities such as P50 nonsuppression. The occurrence of oculomotor impairments, such as smooth pursuit eye tracking abnormalities has been a consistent research finding since the 1970s. Individuals with schizophrenia have marked difficulty matching their eye velocity to the velocity of a slowly moving target, which results in abnormal smooth pursuit eye tracking. Indeed during smooth pursuit eye tracking, individuals with schizophrenia show insufficient inhibition of small fast eye movements, which tends to take their eyes further away from the target they're trying to visually follow. These deficits are observed in a disproportionate number of schizophrenic individuals even during their first episode of illness. Some of my early work indicated that this abnormality is stable over time, regardless of chronicity, medication status, or clinical status. Another potential marker of a schizophrenia liability is a deficit in antisaccade task performance, in which individuals are instructed to look immediately to the opposite side of a laterally displaced visual target. The neural basis of eye movements is well understood, so this remarkably consistent finding in individuals with schizophrenia and their first degree relatives (siblings, parents, and offspring) supports the notion that schizophrenia is a brain disorder.

Working memory is defined as the ability to hold information in temporary storage, manipulate that information, and use it to guide subsequent behavior. Spatial working memory impairments in schizophrenia were first demonstrated in the early 1990s (Park & Holzman, 1992). Since then, several investigators have shown the following: spatial working memory impairments in schizophrenia are common, they're seen in unaffected first-degree relatives such as parents and siblings, and they're stable over time. Schizophrenia patients have these deficits whether they're acutely psychotic or in remission, whether they're medicated or not, whether they're hospitalized or fully functioning in the community.

In the P50 paradigm, two auditory stimuli are presented in quick succession. Normally, a person's neuronal response to the second stimulus will be smaller (lower amplitude) than the response to the first stimulus. P50 suppression is an indicator of information processing, or sensory gating. Individuals with schizophrenia fail to show this P50 suppression. Decreased P50 inhibition is found in approx. 50% of patients and in 10% of healthy subjects. P50 nonsuppression is also frequently observed in the first-degree relatives of schizophrenia patients.

Who is at risk for schizophrenia?

There's increasing evidence that suggests that we may be able to identify the underlying diathesis, or liability to schizophrenia, before the risk condition progresses to full-blown schizophrenia. There are several ways of identifying individuals at heightened risk for the later manifestation of schizophrenia: they can be identified on the basis of genetic, psychometric (questionnaire/inventory), biobehavioral, or clinical risk factors. Much of the knowledge gleaned about the study of individuals at genetic risk for schizophrenia has been based on studies of the offspring of schizophrenia patient (Erlenmeyer-Kimling, 2000). The presence of clinical risk factors can also be used to identify individuals at heightened risk for the development of schizophrenia. One example of the clinical high-risk strategy would be to study individuals who have clinical disorders that are genetically related to, but less severe than schizophrenia, such as schizotypal personality disorder.

In the psychometric high-risk method, at-risk individuals are identified on the basis of their psychometric profiles using questionnaires or instruments such as the MMPI. Much of my research at the University of Wisconsin-Madison focuses on elucidating the developmental trajectory from risk status to clinical disorder, whether schizophrenia, or a

related, but less severe condition such as schizotypal personality disorder. This is done by following at-risk individuals over time, and comparing them with typically-developing, age-matched individuals. Using a set of well-validated instruments known as the Chapman psychosis-proneness scales, investigators (Chapman et al., 1994) observed that individuals who report the experience of strange perceptual experiences are at heightened risk for schizophrenia and other psychotic disorders such as psychotic mood disorders. Individuals who report social anhedonia, or the reduced ability to experience pleasure and/or a deficit in the ability to seek and experience pleasurable activities, are at heightened risk for the specific development of schizophrenia and schizophrenia-related conditions (Gooding et al., 2005). These findings are consistent with data from the genetic high-risk studies that indicate that attentional deviance in early childhood (a risk factor for the later development of schizophrenia) was associated with poor social skills, anhedonia in adolescence and social deficits in early adulthood (cf. Erlenmeyer-Kimling et al., 2000).

Predicting the development of schizophrenia in at-risk individuals

Studies indicate that offspring of schizophrenia patients who later develop schizophrenia and schizophrenia-related disorders displayed attentional deficits, verbal memory deficits and gross motor impairments even as children. However, among the offspring of schizophrenic patients, only a subset of the at-risk individuals were later diagnosed with a schizophrenia-related illness. A composite index of risk was a better predictor of a schizophrenia-related outcome than reliance upon a single indication of deviance. Because not all good predictors of schizophrenia outcome, such as lower IQ or motor impairments, are indicators of a genetic liability towards schizophrenia, searching for the presence of the endophenotypes in the genetically at-risk population is especially beneficial. At present, we cannot predict who, among the individuals at risk for schizophrenia, will later manifest the disorder or one of its spectrum disorders, such as schizotypal personality disorder, or schizoaffective disorder.

Can we intervene in the case of at-risk individuals before they develop psychotic symptoms?

A newer research strategy concerns the study of individuals at the prodromal stages of schizophrenia, before they have an outbreak of manifest psychosis. So clinical researchers attempt to treat individuals who are showing functional deficits like those seen in schizophrenia, but who are not yet experiencing the psychotic symptoms of delusions and hallucinations. This research strategy is based on the premise that the premorbid and prodromal phases of schizophrenia are windows of opportunity to intervene, in order to maximize the likelihood of a better disease outcome. These early intervention programs are preventive in the sense that part of the goal is to prevent further psychosocial decline, and/or to delay the onset of severe psychosis. The risks and benefits of these early intervention programs are currently investigated and debated. The preventive treatment of individuals who show an accumulation of risk factors is based upon a statistical risk-oriented approach to treatment. The study of biologically-based markers, in conjunction with other screens, e.g. clinical signs and behavioral symptoms, can be useful in terms of further identifying who the target population should be, which risk factors are most valid as screening tools for the entry into the study, and what prodromal deficits should be targets for intervention. Endophenotypes are increasingly being integrated into some of these prodromal studies.

Current status of schizophrenia research

The consensus is that schizophrenia is a genetically-mediated neurodevelopmental disease that is typically developed during late adolescence and early adulthood. We don't

know which genes are involved, how many need to be present, and how they affect brain development.

Schizophrenia is associated with neurobehavioral impairments. We know that as a group, people with schizophrenia differ from healthy people in terms of neurocognitive and psychophysiological performance. A disproportionate number of biological relatives of schizophrenia patients also display these deficits, albeit to a lesser degree. Research indicates that these biobehavioral deficits are stable over time. We can conclude that several of these neurocognitive impairments are potential markers of increased susceptibility of risk for schizophrenia. The study of these putative markers can be useful in terms of refining the diagnosis and classification of schizophrenia and schizophrenia-related disorders. These markers also have the potential to enhance our current research strategies for identifying individuals at heightened risk for schizophrenia. We know that not everyone at heightened risk for schizophrenia goes on to develop the disorder. However, it appears that even prior to the onset of the disorder, individuals who later develop schizophrenia deviate on a range of functions, including attention and information processing, motor development, language difficulties, and social behavior. We don't know how schizophrenia develops from risk to manifest disorder. We are at the very beginning of discerning the ways in which the at-risk individuals who later develop schizophrenia differ from those at-risk individuals who remain clinically compensated. We are still investigating whether indicators and predictors which have validity at the population level have predictive validity at the individual level as well. Prodromal studies of schizophrenia are underway.

Summary

My hope is that the scientific community will have adequate resources to continue the research, so that we can further the progress of unlocking this epigenetic puzzle that we call schizophrenia. I'm proud of the work that we are doing in Wisconsin to help demonstrate the ways in which schizophrenia is a genetically-mediated neurodevelopmental disorder. At the University of Wisconsin, many of the researchers like myself have partnered with mental health professionals, mental health consumer organizations and community advocates such as NAMI (which originated in Madison, WI) to educate the local community as well as the community at large about schizophrenia. It is especially gratifying to participate in dispelling myths and correcting misconceptions about schizophrenia and schizophrenia-related disorders through education, research, and advocacy.

Thank you for the opportunity to offer testimony on this important health issue. At this time, I would be happy to answer any questions.

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MR. DEAL. Thank you very much.

I will begin questions.

You have talked about these markers of genetic liability. Did you call them endophenotypes?

DR. GOODING. Endophenotypes, and they are closer in the chain, the causal chain, than phenotypes which are the clinical manifestations, the symptoms of a disorder.

MR. DEAL. Would the same general statements about these markers apply to other disorders other than schizophrenia?

Dr. DePaulo, you are indicating yes?

DR. DEPAULO. Absolutely. But they are better known in schizophrenia than they are in depression or bipolar disorder. So they are very helpful.

MR. DEAL. Dr. Insel, are we further along in any of these three general areas we are talking about in terms of research? Since we have talked about schizophrenia, are we further along in the research for that disease than we are for the bipolar or just simple depression?

DR. INSEL. Yes, I think we are. It is surprising. If one had looked at this 20 years ago, one would expect that all of the big breakthroughs in genetics and in the biology would have involved bipolar disorder, and Dr. DePaulo has been at the cutting edge of that science. But much to our surprise, it is in the area of schizophrenia where we have found the greatest association between genetic variation and having the disease or being, as Dr. Gooding mentioned, at risk for the disease. So, right now, schizophrenia is the place where I would say there is the most traction and the most excitement.

MR. DEAL. We have made the analogies to cancer in several different comments that have been made. When we think of cancer and the treatment for it, we normally think of surgically removing it or treating it chemically to shrink the cancer, or perhaps eliminate it altogether. I gather we are not able to make that same analogy in terms of the treatment of these mental diseases. Can you surgically remove

something that would eliminate any of them? Can you chemically treat them to make it disappear or simply try to overcome what is there?

DR. INSEL. The question really comes down to, can we go from response to cure? And that is true in the case of cancer and heart disease; we have set the goal at cure. And that is particularly true of diabetes, where one looks for what is going to be the cure.

Increasingly in medicine generally, we are having to settle for being able to help people with the chronic illness to be able to live better lives, what we call more recovery than cure. The cure is not yet in sight for most of these disorders, but there are opportunities to reach for recovery, and more than we have had in the past. Some are medical, and some are actually psychosocial treatments.

In the case of schizophrenia, we know that some of the treatments, some of the interventions that make the greatest difference are not necessarily medications, although those are necessary. It is helping people with this chronic illness to be able to live with it, to be able to live in a community where people are supportive. Getting families involved and getting them back to work, is really essential.

MR. DEAL. Anyone else?

DR. GOODING. I would like to add that there used to be the myth that if you got the diagnosis of schizophrenia, it was tantamount to a death sentence or the prognosis was very poor. We do have better treatments, and as Dr. Insel said, right now, we are concentrating on helping people really further integrate into the community.

We have a program that started actually in Madison, Wisconsin, the PACT program, Program for Assertive Community Treatment, that really worked towards bringing the focus of treatment outside of the hospital into the community. It is a community-based multidisciplinary treatment strategy.

They leave patients where they are, and they help them get into the workforce, live independently, and really move toward recovery and self-actualization so it is really gratifying to see the improvements and be able to tell people, you have been diagnosed with this chronic disorder, but here are the things you can still do and here are the ways we are going to help you get there. Including psychosocial interventions, social skills training, and so forth.

DR. DEPAULO. One last point, in the analogy of cancer, it was the appearance at the macroscopic level, at the eyeball level, of tumors that led to the recognition that surgery might be helpful. But from the research in the molecular biology of cancer have come treatment strategies that we never imagined, such as treatment strategies designed through hormones, through the immune system, and through the blood supply to cancers.

Those are the kinds of treatments that you can't imagine yet that we hope to come up with to aid all of these other treatments in schizophrenia, bipolar disorder, and depression.

MR. DEAL. Thank you.

Ms. Baldwin.

MS. BALDWIN. Thank you, Mr. Chairman.

I would like to hear a little bit more about the impact of recent cuts or flat funding of NIH with regard to the research. As you heard me proudly say in my opening statement, I represent the University of Wisconsin, Madison, which receives a great deal of support for biomedical research through NIH funding, and I have been hearing anecdotally from researchers on campus about the impact of recent flat funding in terms of grants cut short or experiencing their colleagues with very high-quality grant applications which are being denied at a much higher rate. No doubt these are because of Congressional action in funding the NIH in recent years. I know in the past 4 years, we have not kept pace with medical inflation, which is around 3.5 percent, meaning the cost of doing research is increasing, but the funding available for the research is either flat funded or cut.

I am wondering if any of our researchers here today have felt the effects of these policies, and has it affected your own research or the research of your colleagues? And additionally, how is it affecting recruitment of new talent, new investigators into the area?

DR. DEPAULO. As a chairman of a department that has 180 faculty members, I would be happy to tell you, because the results are palpable and very visible.

To the point, my faculty has been extraordinarily stable across the years. When people come onto the faculty at Hopkins, they tend to die on the faculty, much later, thankfully, and after very successful careers. But recently, in the last year and a half, we have been losing young very talented investigators, actually several of them funded by the NIH, because they can see the handwriting on the wall, as they put it, and they are going to places that don't offer them the same kind of scientific opportunities, but where they are sure of being funded. I am very concerned about the loss of a generation of young, very talented investigators.

DR. JAMISON. I couldn't agree more, and I think it is such an exciting time in neuroscience. All of us have lived with so much hype and promise for so long, and now in the last 10 years, it really has begun to take off. It seems the oddest, most strange, and devastating time to cut back. It really will affect tens of thousands of lives. There is no question about it.

DR. GOODING. I can say that personally I have been the beneficiary of NIH grant funding, and it was invaluable in terms of being able to investigate the risk factors and to follow longitudinally people at hypothetical risk for schizophrenia. We found some really exciting things, and we would not have been able to do it otherwise with the cuts in funding or at least the flat funding.

We have more ideas from some of my colleagues in my research lab, and it is really difficult because they are saying, yes, this is a great idea and it would be very helpful in terms of furthering the field. But you know what, in order to get NIH funding right now, you are going to need a lot of pilot data. How do you get the pilot data if you don't have the funding? So it is very frustrating.

DR. INSEL. I feel the pain from our side. As you mentioned, the biomedical inflation rate is somewhere between 3.5 and 4 percent. That is part of our challenge. Although we have a doubling since 1998, we are funding more grants, and the grants are larger than they were. We still are able to do quite a bit of great science, but this has been a time where we have had to set priorities.

The reality is that the Nation, this Nation, invests about \$4.76 per American for research on mental illness each year. And we have to ask not whether this is a cost center, but whether this investment is the right investment for the level of concern that you have heard this morning.

MS. BALDWIN. Thank you.

Thank you, Mr. Chairman.

MR. DEAL. Thank you.

Ms. Myrick.

MS. MYRICK. Thank you, Mr. Chairman.

Dr. Jamison, I know you have done so much research and are an expert on suicide, and I want to ask you a question and also make a comment because we have talked about the people who have the illness committing suicide themselves.

Recently, in our community, we have had two fathers, living in great neighborhoods, great careers, everything about them very normal, one of them who actually was successful in killing two of his own children. He did not take his own life. The other one tried to kill both of his young children. One is still living, but he took his own life.

I share that because that is another aspect of this that we don't talk about, not just taking their own life but taking someone else's life as well.

Do you know what percentage of bipolar people actually do end up committing suicide, because I know a lot attempt it? Our granddaughter attempted it several times, thankfully unsuccessfully. But any percentages on that?

DR. JAMISON. There are percentages depending on how serious the form of bipolar illness is. If you take people who have been hospitalized for bipolar illness, the rate of suicide goes up somewhere between 15 and 20 percent, which is a higher mortality rate than most forms of cancer or heart disease. I think one of the unfortunate things about psychology and psychiatry is that, as a profession, we have not used the words “mortality rate” when it comes to our own illnesses. So there is this notion that suicide is off in the ether and it is caused by stress or things that go on in the environment as opposed to 90 to 95 percent of the time being associated with a major psychiatric disorder.

We have done ourselves a big disservice by not focusing on how very strongly associated, and of the illnesses, major psychiatric illnesses, certainly bipolar disorder has the highest suicide rate. It is a very real concern.

MS. MYRICK. Dr. Insel, I was glad to hear you talk about personalized care for these diseases just like we have done for cancer. That is really exciting. And yes, I know funding is a problem for that, but that is something that is good on the horizon where we haven’t been before.

Either you or Dr. DePaulo, you introduced me to the term of presenteeism some time ago, people who are actually present at work but don’t do anything. Would you both elaborate on that, because I think that is something that we totally overlook in society? We talk about people who are absent from work because they have problems. What about the people who actually show up for work but don’t do it?

DR. DEPAULO. Since depression is probably one of the most common sources of that kind of lost productivity, what you find from your patients is that, one is, first off, when they are depressed, depression is not simply feeling sad when your dog dies, people have multiple inabilities to function. Concentration and attention is certainly one of the things hit quickly and hard by depression.

The second thing that happens is the idea that even having an interaction with somebody, going to see a client, going to interact with other workers to get something done, becomes a big stress for people, and so they tend to avoid doing that, and they tend to be more irritable. So people, when they are depressed, although most are in the workforce and about 80 percent are working. They are unable to concentrate, they tend to withdraw a bit because they are irritable, and they don’t have the energy to sustain the interaction to get the job done.

DR. JAMISON. And they are also more likely to use alcohol and drugs which then compounds all of the problems.

MS. MYRICK. There is an article in the Wall Street Journal today that says, a study that says heart troubles often lead to depression, and it

is talking about people who are depressed who have heart attacks, and I thought it was very interesting.

On the schizophrenia side, Dr. Gooding, this is an area that I don't understand very well. I read through your testimony, and so much of it is over my head, and forgive me. When you talked about the multiple personality disorder and schizophrenia and how that is confused, can you address that a little bit?

DR. GOODING. That is a common misconception. Multiple personality disorder, which now is called dissociative identify disorder, has to do with different personality states, different memories and one aspect of the personality not knowing or having awareness of other aspects of personality. That is very different from schizophrenia.

Schizophrenia is really a cognitive disorder in which there is some exaggeration of some functions, such as delusions, false beliefs, hallucinations on the one hand, and that is what most people think about when they think about schizophrenia. But more devastating for people with schizophrenia are the negative symptoms, the symptoms that represent loss or diminution of functioning and those are things like loss or lack of motivation; anhedonia, loss of pleasure; reduced speech; reduced expressiveness, facially, and emotionally. As you can see, it is very different. One is clearly a psychotic disorder. Where there is lots of evidence for genetic basis in dissociative identify disorder, there is still a bit of controversy regarding the rates of diagnosis and the validity of it.

MS. MYRICK. Mr. Chairman, if I may, our colleague, Patrick Kennedy, was here for a while and had to leave, but I just wanted to take this opportunity to thank him about being open about his challenges because that is a big help to everybody.

Thank you.

MR. DEAL. Thank you.

Mr. Rush is recognized for questions.

MR. RUSH. Dr. Insel, can you tell me, can you tell what the NIMH is doing with regard to research on postpartum depression and psychosis?

DR. INSEL. There is a broad range of studies that are looking at both the mechanisms and the best treatment for women during this period.

It is a complicated area because there are many different syndromes that fall under the umbrella of postpartum depression, and postpartum psychosis sometimes overlaps with that, and sometimes is quite different.

There is no question that in some way it relates to the endocrine changes that accompany the end of pregnancy. But we still don't understand the mechanism by which that group, that profile of endocrine changes, puts women at risk. We do know that the risk is huge, and women at that point in life, especially if they have a history of depression, are many, many times more likely to develop a severe

depression at a moment when their energy and attention is more vital than at any other time to their infant.

So it is an area of high priority for our institute where we hope to be able to have some real discoveries very soon.

MR. RUSH. Do you have any opinion about the way in which it is being viewed or the way that it is being portrayed or not portrayed as far as our legal system is concerned?

DR. INSEL. I am not sure what your concern is?

MR. RUSH. There seems to be a strong reluctance by the judicial system to even entertain the possibility that postpartum psychosis is a mental illness, and therefore, those unfortunate victims find themselves in positions where they are denied really the full weight, I would say denied a fair trial.

DR. INSEL. Science would certainly support the idea that this form of depression, or psychosis, either one of them, are brain disorders, just as other forms of major depressive disorder and other psychotic illnesses. We have that kind of evidence, and we also know they are treatable.

But as we have been saying all morning, one of the gaps we are facing here is that we have the science on the one side, which often doesn't match up perfectly with public policy. Part of the challenge is making sure that science informs service at some point.

MR. RUSH. Any other comments?

DR. JAMISON. I think, in general, there is a huge gap between what many judges know about mental illness, and I was actually talking to a friend of mine who is an attorney and asking him what kinds of courses were taught in law school. Given so much of the law relates to human behavior and abnormal human behavior, what kinds of courses are actually taught about psychopathology and the science of psychopathology? Next to none, which to me was staggering because we all know the cases that have come before the courts with postpartum psychosis where a mother has killed one or more children and how dreadful that is and how preventable often it is.

What strikes me is that highly educated lawyers know very little about psychopathology despite the fact that the ones in the criminal system deal with it all the time.

MR. RUSH. I have given you an example. I have a bill that is pending in the Congress that is called the Melanie Blocker-Stokes Postpartum Depression Act. Melanie Blocker-Stokes she was a young African-American woman, professional, came from an upper middle class family, was a sales manager for a leading pharmaceutical company. She married a physician. She had a disease. Nobody knew what it was, and she committed suicide. She jumped out of a tenth floor hotel window on a bright Saturday afternoon and left one child. Her husband

was a physician, and he had no understanding. He had never heard of a postpartum depression, and so the medical profession is also ignorant about this. I think it probably has a lot to do with the fact that it affects women, and there is a disparity in terms of concern about women's health.

I am just astounded that even Members of Congress, when I went to get cosponsors on the bill invariably, out of all of the people I talked to, probably a third of them had some experience with somebody who had postpartum psychosis, but we still have not been forward in our solutions or our attempts to deal with this particular issue.

Mr. Chairman, I yield back the balance of my time and will have some additional questions if we do a second round.

MR. DEAL. I thank the gentleman.

Dr. Burgess.

MR. BURGESS. Thank you, Mr. Chairman. I apologize for being out of the room for most of the testimony.

Dr. Insel, it comes to mind, hearing your response to questions from others on the committee, just as an outsider looking in, and I have only been here a short period of time, but as an outsider looking in, I can't help but feel there is a lot of duplication, for want of a better word, when you look at the various institutes, National Institutes of Health, National Institute of Mental Health, National Institute on Alcohol Abuse and Alcoholism, and run through the list.

MR. BURGESS. Has that been at all an encumbrance upon the correct application of research dollars as you see it?

DR. INSEL. Well, as I think you have heard from NIH Director Zerhouni when he has testified here, there has been a huge, new thrust to try to coordinate all of the Institutes around projects like the NIH RoadMap which are across Institutes and involve an integrated and shared approach to the biggest impediments of medical science. I might add that, because of the Institutes that you've mentioned, in the last 2 years the groups that are interested particularly in the brain and mental disorders and drug abuse have also developed their own integrated effort which is called the Neuroscience Blueprint. That is actually very much like the roadmap in which, rather than having redundancy and duplication, we are actually bringing the best from all of those Institutes together to try to address common problems. And there are many common problems, because we are all ultimately dealing with the central nervous system. But we come at it either through the eye or the ear or, in our case, through abnormal behavior, but we have this opportunity now to do this in a very integrated way, and I think it is working very well.

MR. BURGESS. Is that in a form where it can be shared with Members of Congress at this point, the Neuroscience Blueprint?

DR. INSEL. Absolutely, I would be happy to submit that for the record. We are in our second year. We have a very active Web site. We have 15 or so projects already funded and maybe more than that, and we can get you up to date on all those issues.

MR. BURGESS. I will leave it up to the Chairman whether or not he wants it in the record, but I know my office would very much appreciate being informed of that because you are correct, Dr. Zerhouni, in his own inimitable way, implied that perhaps Congress shouldn't be interfering with the make-up, but he also acknowledged that there was, at least to the uninitiated outsider, he could understand how the appearance of duplication of services might lead one to believe that perhaps it is not the best or most efficient application of research dollars.

In your written testimony, talking about the new things that are going on between understanding of the human genome and neuroscience, it actually sounds pretty exciting. Can you give us any specifics to things that you are working on in particular there?

DR. INSEL. Very quickly, as we were mentioning before, I think the greatest traction happens to be right now in schizophrenia where we have a whole range; I think there are eight or ten candidate genes where there seems to be an association between variation in a particular gene sequence and risk for the disorder.

But hands down, the most exciting opportunity now is what is called whole genome association, and that has been made possible by something called the haplotype map. This is a map of human variation at the genetic level, so it is a map of where all the most common variants are in the human genome. It offers the opportunity to scan those very, very quickly in a way that we never imagined possible 5 years ago, quickly and cheaply. All of this has really come about in the last 6 months, the whole human genome hap map will be available later this year, but we have a very good working draft that has already had a tremendous impact on a whole range of disorders. We expect that will affect the way we look at variation and the molecular basis of risk in mental disorders as well.

MR. BURGESS. And do you see a date on the horizon where that will be generally available to the clinician?

DR. INSEL. Well, the big challenge, Dr. Burgess, is how you go from having an exegetic research finding that explains, say, 5 percent or 3 percent of the risk, to being able to take that and make a difference for clinicians. Where I think it will come first is not actually in the diagnosis of any of these disorders but in the selection of treatments.

So we already have evidence that has just come out in the last 6 weeks that we can predict who is more or less likely to respond to a serotonin reuptake inhibitor treatment for depression, and I think we will

have a number of those genetic variants that tell us about medication response. As you know, we call that pharmacogenomics, and I think that is going to be the first deliverable to happen very quickly.

MR. BURGESS. It is no secret that in my mind at least managed care is not the thing for the practice of psychiatry in this country.

But one of the unintended consequences was for someone like myself who is in more of a primary care field, OB/GYN, by default, I became the prescribing physician for antidepressants, and I can't tell you how excited I am to hear you talk about that because, so often, I was left with my best clinical judgment as to which of this wide panoply of antidepressant medications might be the best one for this particular patient. And probably about 80 percent of the time, I was satisfied with the result. But about 20 percent of the time, I was not only unsatisfied with the result, I was struck by how wrong I could have been on the selection of a particular agent for a particular patient. So that just, from the perspective of a practicing physician who had the practice of psychiatry forced upon him by external forces in the insurance world, I am very glad to hear you talk about that because I think it is going to make us much more effective in our ability to deliver care for patients.

Now, Mr. Rush, who has I guess already left, talked a little bit about postpartum psychosis and unfortunately probably using depression and psychosis interchangeably there where it is not actually well suited for that interchangeability. But you talk about, in the imaging part of your discussion on area 25, sounds like where they took the alien from Roswell, but nevertheless, area 25 in the brain that has some specifics to it, have you looked into the management of postpartum psychosis with these imaging techniques?

DR. INSEL. That is a great question and the answer is, no, that study hasn't been done, recognizing that much of this research has really just emerged in the last 9 to 12 months. Much of it is still underway, so there is a lot of interest in moving forward with those kinds of studies for postpartum depression, but it has not yet been done as far as I know.

MR. BURGESS. Again, he alluded to the difficulty with the disease being much more common than people think, and yet, at the same time, even the unfortunate individual who was a physician and married to a patient didn't recognize the signs, and I will tell you, as a physician who is also a husband, it is sometimes difficult to recognize signs, not just postpartum depression but from other more common illnesses. I think I missed the diagnosis of chicken pox with all three children. We don't need to put that in the record, Mr. Chairman.

MR. DEAL. It is there forever.

MR. BURGESS. But a tool like this would be so helpful, and you know, during the course of the day, the average OB/GYN who sees what

30 to 45 patients in order to pay overhead and liability insurance and has to make a decision based on a 10- or a 15-minute interview with a patient who is struggling after delivery, to know which ones are truly at risk. And, unfortunately, as we have seen in Texas, some very famous and very dramatic cases of postpartum psychosis that resulted in the injury to in some cases multiple children within a family, the ability to be able to provide that practitioner with a reliable test that would be community-based or nearby in a community to be able to say, I need to send you down to the Medical School to get this scan done because I am concerned about your symptoms, that would be tremendous to be able to put that in the hands of practicing physicians across the country.

With that, Mr. Chairman, you have been very indulgent, and I will yield back.

MR. DEAL. I think Dr. Insel wanted to respond.

DR. INSEL. The NIH mantra now is what we call the three Ps, that is: predictive, personalized, and preventive. And I think all of those together, if we can deliver that to individual practitioners, is where we want to be.

MR. BURGESS. Mr. Chairman, just a point of personal privileges, coming to Congress, I did not realize what a national treasure the NIH was.

I have taken now a series of field trips out to a variety of the institutes out there. Every time I do that, I come back so impressed with what is going on and so optimistic about the future of our country and what we are going to be leaving for our children, because you guys are doing work out there that is nothing short of fantastic. I will yield back.

MR. DEAL. Thank you.

Mr. Pickering you are recognized for questions.

MR. PICKERING. Thank you, Mr. Chairman, I want to thank the panel, and I want to thank the Congresswoman from North Carolina for her leadership. It was great to hear a physician on the committee, Dr. Burgess, as he engages. And it is truly remarkable the progress that we have made in understanding mental illnesses. And as Congresswoman Myrick has appropriately defined various brain diseases.

I would like to ask Dr. Insel what we have seen over the last 10 years, what would you say you see over the next 5 to 10 years in our understanding, our ability to do the three Ps, to be able to predict whether a child born next year could be susceptible to autism-related disorders or to mental illnesses, bipolar, mental depression, and to what degree will we be able to give those therapeutic predictors or plans and help to our physicians and our psychiatrists and psychologists, and to our families? And to what degree will the pharmacological prescriptions be enhanced

to really make a difference in the lives of a lot of individuals and families? So what do you see over the next 5 to 10 years?

DR. INSEL. Well, it is a tall order. Let me just give you the 10-second overview which is that the three Ps will come about largely with the two best tools we have now which are genomics and imaging. And you can probably add to that some better kinds of neurocognitive batteries, as Dr. Gooding was talking about for schizophrenia. We have already seen this with autism, although we don't have the genetics yet, and imaging hasn't been particularly informative. With some of the neurocognitive tools, we have taken the diagnosis of autism from a point much earlier from 5 years ago, when most children were being diagnosed at age 4, 5, or 6, depending on their level of access; we are now able to reliably diagnose autism well before age 3 and, in some cases, before age 2. And that is critical, because we know that if we can intervene early, that we can, in some cases, preempt many of the worst aspects of this very devastating illness.

I wish I could say we could now do the same thing for schizophrenia. We are not quite there. But there is no question that through the use of genetics, through imaging and through all of these other kinds of tools like neurocognitive batteries, the vision for mental disorders is very much the vision that we have had for cardiology and cancer. For example, for schizophrenia, we want to be able to intervene well before the first break, just as with heart disease, we now intervene generally before the first heart attack. And so much of what cardiology is about now is preemption; it is treating people with lifestyle changes, with diet and sometimes with statins to keep them from having a heart attack.

We need to be taking just that pathway forward for schizophrenia, for bipolar disorder, and for autism.

MR. PICKERING. Anybody else on the panel like to--and what policies can we adopt to help accelerate, if Dr. Burgess was talking about getting the scanning and the imaging capabilities out to the physicians and to the community, what are the things that this committee can do, both in research, and in practical resources to the communities, hospitals, physicians, that would accelerate that?

DR. DEPAULO. Well, if I might and I will say that we all have the dream that we are going to be able to, quote, "translate a basic science finding into a deliverable treatment," and so far, those things still take years to do.

So that is why I think that the war on cancer and the serious work that is being done on heart disease is, I consider, about half done.

But I think one of the things you can do is to obviously not only increase funding for research but to make it predictable, so that it won't be varying up and down so much. That would be very helpful I believe,

and I think Dr. Insel would possibly be very much happier if he could plan ahead beyond the life of a particular grant. I think that is also extremely important, as we were saying earlier, for the careers, because we don't just need money. We need young careers of people who are going to devote their lives and their careers to this. You don't want to cut off a generation of those people, so certainly those are two ideas.

I think in terms of translating, I think we need a number of things to happen on the clinical side, but certainly I don't want to neglect the idea of public education. I still think that is fundamentally important, and when people know what they have, they become much better in some ways. Coming from Dr. Burgess, is that we find that it is easier to educate patients sometimes than it is to educate physicians who weren't trained at a time in which a certain development took place.

So those are certainly points I would make.

DR. JAMISON. One of the things that is always striking to me is, parents learn about mondo bizzaro diseases that kids never get that are very rare diseases, and they learn next to nothing about depression and bipolar illness, which are very common illnesses. It seems to me that pediatricians and doctors who are primary care physicians have an obligation to not only learn themselves but also to transmit that education through the school systems. One of the things that is great, Johns Hopkins for example has a very aggressive program in the Baltimore public and private schools to educate kids, teachers, and parents about depression. I just think this should be much more common than it is. There is one thing that you can do in terms of research that is going to affect people 10 years from now; what can you do to keep people alive now with what we do know?

DR. GOODING. I would like to echo that and say that education is so critical, increasing public awareness, not just about mental illness in general but about specific warning signs or specific help-seeking or specific behaviors that would lend one's self to realize that maybe they should start seeking help.

We also need to educate people. They need to know that there are more advances now in terms of mental health treatment and mental health research. So that they don't feel that there is no hope and that they do go and follow up on the treatment recommendations.

Furthermore, we need to educate people so that we can reduce stigma because people are not going to go and admit to having problems and they are not going to seek treatment if there is stigma associated with doing so.

MR. PICKERING. Mr. Chairman, thank you.

And I would be interested to follow up just on how much we are spending on the educational side of educating and informing the public, but I know my time is up.

MR. DEAL. Thank the gentleman and to the panel, very excellent testimony, and any documents that you wish to submit for the record, Dr. Insel, one of the references to the question from Dr. Burgess about that study would be certainly appreciated, and we will, without objection, allow that to be included in the record.

[The information follows:]



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Institute of Mental Health
6001 Executive Blvd.
Bethesda, Maryland 20892

AUG 1 2006

The Honorable Michael C. Burgess
House of Representatives
Washington, DC 20515-4326

Dear Dr. Burgess:

During the hearing of the Health Subcommittee of the House Energy and Commerce Committee on June 28, you asked me about collaborative activities among the Institutes making up the National Institutes of Health (NIH). The hearing itself focused on what research has taught us about mental illnesses as brain diseases. In response to your inquiry, I mentioned the *Neuroscience Blueprint*, which is one such example of growing collaborations across NIH. As you requested at the time, I am enclosing information about this effort, which involves 15 NIH Institutes and the Office of the Director of NIH.

I trust the enclosed information will answer many of your questions about cooperative activities at NIH and about the *Neuroscience Blueprint* itself. Of course, if you have any questions or if you need additional information, please do not hesitate to contact me.

Thank you for your interest in NIH and in the Neuroscience Blueprint.

Sincerely yours,

Thomas R. Insel, M.D.
Director

Enclosure

NIH
National Institute
of Mental Health

BLUEPRINT BY IC

National Institutes of Health
FY 2005 - FY 2006 Neuroscience Blueprint
(Dollars in Thousands)

	FY 2005 Actuals	FY 2006 Estimate
NIDCR.....	44	85
NINDS.....	2,330	7,487
NIGMS.....	67	132
NICHD.....	437	824
NEI.....	691	4,370
NIEHS.....	93	187
NIA.....	694	1,150
NIDCD.....	257	1,987
NIMH.....	841	4,521
NIDA.....	665	3,793
NIAAA.....	213	442
NINR.....	34	59
NIBIB.....	60	123
NCCR.....	208	401
NCCAM.....	31	57
Total, NIH.....	6,665	25,618

NIMH will take the lead in coordinating the development of genetically engineered mouse strains important to nervous system research = Neuromouse Project.

Percentage is of each IC's Neuroscience Research respectively ---
Based on IC reporting of Neuroscience Research for FY 04, FY 05 and FY 06.
FY 06 includes \$12M of Blueprint specific funds from NIH identified in the FY 06 PB of which \$2M is for NIMH.
FY 06 includes an NIMH carryover allocation of \$198K from FY 05 to FY 06 to fund the Pediatric MRI R&D Contract.
FY 05 = .15% of Neuroscience Research.
FY 06 = .30% of Neuroscience Research

BLUEPRINT BY IC

Blueprint

The NIH Blueprint for Neuroscience Research

The NIH Neuroscience Blueprint enhances cooperative activities among the Office of the Director, NIH and the fifteen NIH Institutes and Centers that support research on the nervous system (see attachment for a complete listing). The nervous system consists of the brain, the spinal cord and the peripheral nervous system including nerve ending in sensory organs such as the eye and ear. It is an extremely complex system with over a trillion highly interconnected cells that process many different types of information. The nervous system is responsible for many diverse functions, from vision, hearing and other sensory information, to motor control, and vital functions such as the regulation of respiration and heart rate. It is also the basis of humanities and the site of thoughts, feelings and behavior and therefore influences not just the function of our body but also our productivity, personal lives and role in society. Over 1,000 diseases affect the nervous system, and represent a significant public health challenge. These disorders affect nearly one in three Americans, lead to more hospitalizations than any other disease group and account for six of the top ten sources of disability from all medical causes in the U.S. (WHO, 2002).

By pooling resources and expertise, the Blueprint takes advantage of economies of scale, confronts challenges too large for any single Institute or Center, and develops research tools and infrastructure that serve the entire neuroscience community. "Best practices" developed at a single Institute or Center are implemented more widely; planning is coordinated at the early concept stage; resources established by one Institute or Center are opened to neuroscientists supported by others; and multi-Institute working groups focus on diseases and cross-cutting scientific issues.

The first Blueprint initiatives, released in FY 2005, include a comprehensive inventory and analysis of neuroscience tools funded by the NIH and other government agencies, enhancement of training in the neurobiology of disease for basic neuroscientists, and expansion of programs in genomics and neuroimaging. Blueprint initiatives for FY 2006 included support for training programs, genetic mouse models, neuroimaging tools, core research facilities, and tools to enhance the value of clinical research conducted by each Blueprint institutes for the missions of all.

The Blueprint was inspired by the recognition that unifying themes in neuroscience research are fundamental to understanding the normal and disordered nervous system and to developing better prevention and treatment strategies. Three themes bear on the missions of all Blueprint institutes and centers: (1) neurodegeneration in aging and disease, which will be the focus of the Blueprint in 2007; (2) development of the nervous system throughout the lifespan, the focus in 2008; and (3) plasticity, the capacity of the nervous system to change in response to the environment, experience, injury, and disease, the focus in 2009.

In summary, the NIH Neuroscience Blueprint is a cooperative and cost effective way to pool resources from multiple Institutes, providing neuroscientists with tools and infrastructure that can expedite discovery and thereby advance the understanding of the nervous system and its disorders.

Participants in the NIH Blueprint for Neuroscience Research

National Center for Complementary and Alternative Medicine
 National Center for Research Resources
 National Eye Institute
 National Institute on Aging
 National Institute on Alcohol Abuse and Alcoholism
 National Institute of Biomedical Imaging and Bioengineering
 National Institute of Child Health and Human Development
 National Institute on Drug Abuse
 National Institute on Deafness and Other Communication Disorders
 National Institute of Dental and Craniofacial Research
 National Institute of Environmental Health Sciences
 National Institute of General Medical Sciences
 National Institute of Mental Health
 National Institute of Neurological Disorders and Stroke
 National Institute of Nursing Research
 Office of Behavioral and Social Science Research

NIH Blueprint

for Neuroscience Research

■ What is the NIH Neuroscience Blueprint?

The Blueprint is a framework to enhance cooperative activities among the NIH Office of the Director and fifteen NIH Institutes and Centers that support research on the nervous system. By pooling resources and expertise, the Blueprint takes advantage of economies of scale, confronts challenges too large for any single Institute or Center, and develops research tools and infrastructure that serve the entire neuroscience community. "Best practices" developed at a single Institute or Center are implemented more widely, planning is coordinated at the early concept stage, resources established by one Institute or Center are opened to neuroscientists supported by others, and new working groups can focus on diseases and cross-cutting scientific issues.

■ How does the Blueprint affect the way the NIH does business?

Each Institute and Center continues to carry out the basic, disease-specific, and life course-specific research unique to its mission. Just as the NIH Roadmap addresses the roadblocks that hamper progress across all of medical science, the Blueprint can take on challenges in neuroscience that are best met collectively.

■ How will the Blueprint affect people's health?

Nervous system disorders take many forms: mental disorders, such as schizophrenia, depression, and obsessive compulsive disorder; neurological diseases, such as stroke, traumatic brain injury, epilepsy, Parkinson's disease, and multiple sclerosis; degenerative dementias of aging, such as Alzheimer's disease and vascular dementia; developmental disorders, such as autism, mental retardation, and attention deficit disorder; inherited and acquired visual and hearing loss; chronic pain conditions; alcohol dependence; and drug addiction. While the Blueprint does not target individual disorders, the tools, resources, and infrastructure created through the Blueprint have the potential to accelerate research on a broad range of disorders. Research to elucidate the causes and consequences of nervous system disorders can lead to advances in prevention and treatment.

As of October 2005, the NIH Office of the Director and fifteen NIH Institutes and Centers have agreed to participate in the NIH Neuroscience Blueprint.

They are:

NCCAM
NCRR
NEI
NIA
NIAAA
NIBIB
NICHD
NIDA
NIDCD
NIDCR
NIEHS
NIGMS
NIMH
NINDS
NINR
OBSSR

■ What are examples of recent Blueprint initiatives?

The Blueprint has supported the following initiatives:

- Blueprint Microarray Consortium
- Expansion of GENSAT (Gene Expression Nervous System Atlas)
- Expansion of the Pediatric MRI Study of Normal Brain Development
- Neuroscience Information Framework
- Course Development in the Neurobiology of Disease
- New Ways to Image Neural Activity
- Interdisciplinary Center Core Grants

■ How will the Blueprint develop in the future?

The Blueprint welcomes suggestions from the scientific, clinical, and patient communities on needs and opportunities for cooperative action. Contact us by email at blueprint@mail.nih.gov. New developments, including specific initiatives, are posted at

<http://neuroscienceblueprint.nih.gov>



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

MR. DEAL. I want to thank the panel very much for your distinguished testimony.

Now I call the second panel to the table.

MR. RUSH. Mr. Chairman, I would like to ask unanimous consent--there were questions I had of the first panel. I am sorry I was out on the phone, but I would like to submit the questions in writing so I might be able to get--

MR. DEAL. Yes, I have already done a unanimous consent that would allow any member to do that, and certainly, I think they would be willing to respond to your questions.

MR. RUSH. Thank you Mr. Chairman.

MR. DEAL. Likewise, we have a second distinguished panel. We want to thank all of you for being here. It is my pleasure to introduce them at this time.

STATEMENTS OF JENNIFER MARTIN, ATTORNEY, LAW OFFICES OF JENNIFER L. MARTIN; GILBERT LAMPHERE, MANAGING DIRECTOR, LAMPHERE CAPITAL MANAGEMENT; AND PETE EARLEY, WRITER;

MR. DEAL. Jennifer Martin is an attorney who is in private practice in Topeka, Kansas. She is here today to talk about her struggle with severe depression and her efforts to treat her condition.

Mr. Gil Lamphere is a capital fund manager. Mr. Lamphere has a very distinguished business record, having worked at Morgan and Stanley as a Vice President and many other areas of the business world, and, in 1998, founded Lamphere Capital Management where he is the Managing Director.

And Peter Earley, who is a journalist and author, a New York Times best-selling author and a former reporter at the Washington Post. We are pleased to have him here today, and he is going to talk about his son's mental illness and the family's experience in dealing with bipolar disorder.

We are pleased to have all of you, and I will say to you as I did the first panel, your written testimony is in the record, and we would ask you if you would to use your minutes please to summarize that and talk about issues that are of concern with you. Thank you.

We will begin with Ms. Martin.

MS. MARTIN. Thank you, Mr. Chairman Deal. I want to thank the Chair and the members of the committee and especially Congresswoman Myrick for holding this hearing today and allowing me to testify on this vitally important issue.

If anyone had told me 5 years ago that I would be sitting here testifying in front of the House of Representatives about my own mental illness, I would have told you that you were crazy and that, certainly, I wasn't crazy, and I was never going to be crazy.

I grew up in the Midwest, outside of St. Louis in a normal every day average household. I have the same parents I started with. We had a dog and a picket fence.

Life was perfect. But inside, inside the family, I knew of depression. My Mom had suffered from depression, from postpartum depression and generalized major depressive disorder her whole life, it was always untreated and only once diagnosed. Her sister, my aunt, committed suicide in 1987 from diagnosed but untreated bipolar disorder. So it was always the specter in my family. I had bouts of depression, the blues, things like that, but I thought that was normal because, in my family, everybody suffered from depression that was undiagnosed, so that was my normal life.

I sort of thought, once I grew up and got out on my own and had my job and had my life, I would be happy, and things would be fine.

So I kind of pushed aside those empty feelings or the bad feelings I had. I graduated from the University of Missouri Kansas City School of Law in the top of my class.

I was recruited by the two largest most prestigious firms in Kansas City, went to one of them and had what everyone thought was the perfect life. I made great money. I had good friends. I had the perfect job. I had a perfect life, but I was absolutely miserable. The fact that everyone kept telling me, oh my gosh, you must be so happy with yourself, and life is great, made it worse. I would go home and sit by myself and be miserable on a daily basis.

We talked over and over today about stigma and the stigma of mental illness. When I first started working at the law firm, I was told, don't let them see you sweat. Don't let them know that you are stressed because they will think you can't handle the work. So I was able to push those feelings down, but then I had to be there. I had to make billable hours. I had to work 7 days a week, and I didn't have any recovery time. Partners kept asking me, what is going on, you are not meeting your billable hour requirements? It was like I had a secret life. During the day, I was a hot shot young associate, and then, at night, I was binge drinking and using drugs in an effort to mask the pain and mask the depression that I felt.

I can't even explain what it is like to live that secret life, for people to say, oh, you have a perfect life and everything is rosy, and then to be doing cocaine on the weekends and waking up from a bender and not knowing what had happened the weekend before.

I was really sick, but I couldn't tell anybody because of the stigma that was associated with depression. I mean, after all, smart people don't suffer from mental illness.

I learned eventually that I did suffer from major chronic recurrent depression. I finally sought treatment with the insistence and the help of a friend in November 2003. I started receiving counseling and antidepressant medications, and at that time, it was covered by the law

firm, and I had a great insurance program, but it was too little too late. Not a month and a half after I started my treatment, I was called in by the partners and they said, we think you need to find opportunities outside the law firm. Apparently, my lack of a team player attitude combined with my constant hangovers and runny noses were being noticed even though I thought I was doing a good job of hiding it.

Once I left the big firm and went out on my own, somehow I was no longer able to get health insurance coverage because I had a mental illness, and I couldn't even get basic coverage in the State of Kansas where I lived because of that diagnosis.

But I was lucky, my parents had been able to foot the bill for me. For the last few years, I have been out on my own, but I pay over \$400 a month just for my mental health coverage. Not everybody has the resources I have.

Today I am recovering from depression. I have been in recovery about 2.5 years. I just got married 3 weeks ago. Life is going really great for me, but I do relapse. When I do, I know I am not lazy or overly emotional or just feeling sorry for myself. That is why I am so grateful and honored to be here today in the U.S. House of Representatives.

Since I began speaking out about my depression just recently in an effort to reduce the stigma, I have been amazed by the millions of people who suffer from depression and the many people that I meet. Just on the plane here this morning, someone saw me working on my testimony and preparing, and they leaned over and started to tell me their story of a friend who had suffered from bipolar disorder and committed suicide.

In February of this year, I made my first trip to Washington, D.C., with the Depression and Bipolar Support Alliance to introduce their groundbreaking research paper, The State of Depression in America. I had the honor of sharing a podium with Mr. Mike Wallace and Representative Patrick Kennedy, and we, all three, got to talk about the effect that serious mental illness has had on our lives.

By removing the stigma of depression and helping people recognize that depression is a real illness, we bring the shadowed illness into the light of day and gave millions of people who are now quietly suffering from this excruciatingly painful illness the opportunity to seek treatment, treatment that we know can and really does help. Thank you.

[The prepared statement of Jennifer L. Martin follows:]

PREPARED STATEMENT OF JENNIFER L. MARTIN, ATTORNEY, LAW OFFICES OF JENNIFER L. MARTIN

I have always been aware of depression. My mother has suffered from depression for as long as I can remember. Her sister, my aunt, committed suicide in 1987 while suffering from diagnosed, but untreated, bipolar disorder. I had even had small bouts of depression growing up, but never believed I could suffer from "mental illness."

I am an attorney in Kansas City, Missouri. I graduated at the top of my class from the University of Missouri – Kansas City School of Law.

Not long after graduating and beginning my dream job with a prestigious Kansas City law firm, I realized something was wrong. I didn't smile or laugh. Feelings of sadness and despair inexplicably began to cascade over me. I had the perfect life (great job, good friends, money), but the world seemed dark and hopeless. The fact that I *should* have been happy made my misery even worse.

As an associate at a big law firm, I was expected to work long hours and weekends in order to meet the billable hour requirement, but I was frequently chastised by the partners in my firm because I was not hitting the bottom line and my attitude seemed poor. I was told I didn't seem like "part of the team." Instead of billing hours and being part of the team, though, I was living a secret life: a life where I was abusing drugs and alcohol heavily and regularly in order to ease the pain of my depression. Those drug and alcohol binges were always followed by even darker days where I could not even get out of bed.

I was really sick. But all I could think was that my employers would assume I was weak or lazy. That I couldn't cut it in the corporate world and surely wasn't smart enough to work for their prestigious law firm. After all, smart people don't suffer from mental illness.

I have learned, though, that depression is a real disease brought on by a number of factors, including physical and chemical changes in the brain. I have also learned that depression is a very treatable illness. In November 2003, I began to receive counseling and anti-depressant medication, which was covered by the group health insurance plan at the firm. By then, though, it was too late for my job. My lack of billable hours, combined with my constantly runny nose and regular hangovers led the partners to suggest that I look for "other opportunities outside the firm."

And, once I left the big firm and opened my own law practice, I could no longer get mental health insurance coverage. I am fortunate that I can afford to continue my treatment even without insurance coverage. But what about the many people who cannot afford the \$400 a month I pay?

Today, I am recovering from depression. I have a successful and growing law practice. I just got married 3 weeks ago. When I relapse, which I do, I know that I am not "lazy" or "overly emotional" or simply feeling sorry for myself. I have depression – a real and serious illness that affects millions of Americans.

That is why I am so grateful and honored to be here today in the U.S. House of Representatives. Since I began speaking out about my depression in an effort to reduce the stigma of depression for others, I have had been amazed by the millions of people I have met who are living with and suffering from depression and other mental disorders. In February of this year, I attended and spoke at a press briefing for the Depression and Bipolar Support Alliance's presentation of the groundbreaking paper: The State of Depression in America. I even shared a podium with Mike Wallace and Representative Patrick Kennedy.

By removing the stigma of depression and helping people recognize that depression is a real illness, we bring this shadowed illness into the light of day and give millions of people who are now quietly suffering from this excruciatingly painful illness the opportunity to seek treatment – treatment that we know can and does help.

MR. DEAL. Thank you.

Mr. Lamphere.

MR. LAMPHERE. Good morning, Mr. Chairman.

Congressman Stuckey from the great State of Georgia, who I had the privilege of working for some 30 years ago, always told me, if

everything has been already said, when your time comes, you better tell some good stories.

And that I will try to do within 5 minutes.

A couple years ago, I was suffering in the third year of what would be characterized as the 99th percentile of severity of depression, a serious case.

I had taken some 27, 28 medicines, none had worked, that 27, 28, did not include any cocktails or combinations of medicines which would have boosted that number considerably. I have had 41 electric shock treatments which were effective until the last 10 or 12.

During all this, I had had a very supportive family and wife, but things proved a little too much, and I lost my wife to divorce, lost the family, lost the apartment, lost a good deal of my liquid assets, lost my job. And finally, I was poured into a seat on the Acela and taken down to Baltimore to Johns Hopkins. Dr. DePaulo was there, and his predecessor, Paul McHugh, was there, and I said, gentlemen, you got to pull out all the stops; I don't care what the side effects are, pull them out.

And so they went back and got a class of drug that was over 35 years old called Parnate. It is an MAOI, rarely used, very hard to find in the drug stores, even in New York. They combined it with a drug that was less than 2 years old called Geodon that had been invented not for depression but for hallucinations for schizophrenics and for bipolar with hallucinations but had been found by Johns Hopkins to be very, very effective in lower dosages with depression. Thirty years old, and year and a half old.

The magic bullet was lithium and then Lamictal, which are mood stabilizers with antidepressant qualities.

They handed over that lobster roll, and they said, enjoy, because we think this is it. One day later, I felt better. I said let's put some more lobster in that one, and we added a little bit more. I felt that much better. I said, just keep going.

Sure enough, by the fourth or fifth day, I was back to my old self. The story I want to leave you with is that I don't know if I could have made it if I didn't have the support of my family, at least until the end, or had the great wealth, and the perseverance, but the money to have taken advantage of the finest doctors in this country and finally find a teaching hospital that had the ingenuity to find the combination that would bring my particular predicament to a resolution.

My first point I want to make, Mr. Chairman, is, I honestly believe this is a physical illness. It is not a mental illness. The sooner we get that fact out in the educational system, in the elementary grades, the high school grades, the more people will understand.

Let me tell you why I think it is a physical illness and what convinced me. I was having a great debate with one of the great psychopharmacologists in New York, one of the finest, and I was telling him, psychologically, that these people who went to work in the morning looked like ants with briefcases on a treadmill. I said, I don't know what they are laughing about. I don't know why they take pleasure in sitting under a tree waiting in the shade. He said, "Gil, this is not psychological. This is all physical." I said, "What do you mean?" He said, "Well, you pay, I can't pay, and healthcare is not going to pay, but why don't you go down to NYU on 16th Street, and we will take some brain scans."

So I went down there, and they hooked up 25 electrodes to my head, and it looked like a Christmas tree. It was bright red here. It was beautiful blinking green here. It was blue and white here. We got here, and I said, well, that is the overview, but where is the detail? Because they said, that is the detail. It is black.

It is black. It is not working.

It is gone. I realized this is like charging a battery. You have to have in the charging battery the right chemicals. You have to have the right jumper cables. You have to have the right ignition, and you have got to permeate that brain, which is in reference today. I mean, the brain is designed to keep all this stuff out with good reason, but you've got to get it through there.

So it takes a long time to cure this illness oftentimes.

We talk about some of the illnesses, high blood pressure and diabetes and broken arms and Band-Aids. That is exactly what this is.

It is a physical illness. Our panel before us can talk about a lot of the environmental things that happen that we think are causative that people are prone to. There is no question about that.

But what happens is, there is a snap. The brain goes black. I think that is what we have got to get across today is it is a physical illness. I will stop there, Mr. Chairman.

[The prepared statement of Gilbert H. Lamphere follows:]

PREPARED STATEMENT OF GILBERT H. LAMPHERE, MANAGING DIRECTOR, LAMPHERE
CAPITAL MANAGEMENT

Good Morning.

What is not on my resume is that I was severely depressed for 3 years. In fact, I was in the 99th percentile of severity. Life was not worth living. I had the finest psychiatric and psychopharmacological attention my fortunate wealth could access. I had tried 27 medicines, not including combinations or "cocktails" of them. I had 42 electric shock treatments to give me some respite. I spent 75 weeks in and out of hospitals. I had a loving wife that I lost to divorce 6 months prior to the end of my successful treatment. I lost my family, I lost a good deal of my assets, I lost my apartment, my job and profession, and my father had a stroke.

Finally, when the last electric shock treatment had surprisingly failed, I was gifted by a friend who said “get down to Johns Hopkins”. There I was told I would be lucky, given the severity and duration of my illness, to regain 80% of normalcy, 80% of the time. Since normal for me is more like 120% and a blessed hypo-manic state, not manic, just happy and positive and energetic most of the time, I remember telling Dr. Raymond DePaulo and Dr. Paul McHugh, two of the outstanding psychiatrists in the world, that 80% wasn’t good enough and to pull out the stops and we’d worry about side effects later. And so we did, because that’s their philosophy anyway—pull out the stops, think outside of the box, in fact, collapse the box entirely.

So here I am today. Hopkins gave me a 30 year old, off patented, class of depressant called Parnate (an MAOI), invented in the early 70’s, together with a 2 year old drug designed for calming hallucinations in bipolar and schizophrenics, but which Hopkins had discovered had powerful anti-depressant behavioral effects at low dosages. Add to this mix, Lithium and Lamictal as mood stabilizers with anti-depressant qualities and we had the perfect cocktail.

I spent 12 weeks off and on at the hospital. My wife and children never visited me for reason I still don’t fully understand. But it’s very possible they had been advised not to get further swept up in the vortex of an illness that eats marriages alive, until we got the fine tuning right. And here we are two and a half years later, and I feel better today than I ever remember in my life.

Against this backdrop, I have just 2 points to make today.

First, depression, bipolar and its related cousins are not mental illnesses. They are physical illnesses, in both cause and treatment. Allow me to explain. In the middle of my illness, Dr. Francis Maas, one of New York’s premier psycho-pharmacologists, told me that part of my brain affecting emotion and cognitive behavior was shut down, non functioning. I didn’t believe him, since I thought I was right in all my thinking, e.g., that nothing was humorous, nothing gave pleasure, people going to work in the morning was a repetitive tragedy like ants with no brains, etc. To prove my point that my psychological insights were correct, I went down to New York University Hospital where they hooked up my head to 25 electrodes and for a half hour recorded my brain functions. Then I looked at the printouts. It looked prettier than a Christmas tree. My brain’s right front was blinking red, my back right was blinking green, my left back was blinking yellow and blue and my front left was—holy smokes—it was black with nothing going on.

Mental illness may have gotten its name by being lodged in the brain, but at its core, it is not psychological (although counseling can help after the brain is lit up enough) illness. It is a physical illness like diabetes, high blood pressure or a broken arm, which things like extreme stress triggers. There can be a predisposition, or there can be not trigger at all. But suddenly, the physical components of the brain, the electrons, the chemicals, the neurons, the reuptakers, electrical charges don’t work. And my point is, if these disorders are thought of correctly, as physically caused and physically cured, mental illness will be called a brain problem, seen entirely differently and the stigma will melt away. Incidentally, I find this insight to be most easily accepted by people under the age of 60 and not so easily accepted by people over 60 (mostly men) who feel if you are depressed you should “pull yourself up by the bootstraps and regain the respect of your wife, family and friends.”

My second and last point today, is that finding the right medicine or combination of medicines can often be a long drawn out process. We seem to understand what we are trying to stimulate in the brain, and medicines today are targeted, with variations, to do that. But it is still hit and miss. We need to manage patients expectations while, at the same time, give them hope. But medicines sometime take a long time to fully work, and sometime the patients grow discouraged that he/she is not getting better and the doctor has moved the goal post another 100 yards down the field.

In summary, we have a physical ailment, not psychological, that is treated physically, and that is difficult to treat and takes time. Thank God I have had my family for much of the time, and my wealth to get me through. How other people without those two ingredients struggle through the months and years of being without human support, a job, money and the finest care in the United States, is beyond me.

MR. DEAL. Thank you.

Mr. Earley.

MR. EARLEY. Thank you.

My name is Pete Earley. I am the author of, "Crazy: A Father's Search Through America's Mental Health Madness." I am also the proud father of a 27-year old son, Mike, who happens to have a brain disorder.

His illness surfaced while he was in college in New York. His brother called me one day in a panic and said, Mike has gone crazy. I drove immediately to New York to get him from my home in Virginia. It is difficult for me to tell you how painful it was to ride home with him on that day.

During the 4-hour drive, his moods would shift within seconds, crying at one moment, laughing at the next.

He said to me, "Father, how would you feel if someone you loved killed himself?" I did what any parent would do. I drove him to an emergency room.

I will never forget the intake nurse rolling her eyes as Mike described how he was getting secret messages from God. We waited for 4 hours. A doctor came in. He came in with his hands up as if he were surrendering, and he said, "I can't help your son." I said, "You haven't even looked at him." He said, "It doesn't matter. Your son has told the nurse that he believes pills are poison, and under Virginia law, I cannot treat anyone against their will unless they are in an imminent danger to themselves or someone else. Take him home and bring him back when he tries to kill himself or kill you."

The next 48 hours, I watched my son sink into a mental abyss. At one point, he had tinfoil wrapped around his head because he was convinced the CIA was reading his thoughts. He slipped out of my house. He broke into a stranger's house to take a bubble bath. Five officers had to go in and wrestle him out.

They took him to a community treatment program. I arrived, and the policeman outside said, unless you go in there and you tell his psychiatrist that your son tried to kill you or kill himself, he will not be admitted. I said, he hasn't done that. He said, it doesn't matter, under the law, he has to be in imminent danger to himself or others. So I went in, and I lied. My son was put in the hospital. A few days later the

police called me. My son had been charged with two felonies, breaking and entering, and destruction of property.

I was so frustrated. Our laws had stopped me from getting him help. Now the laws wanted to punish him for a brain disorder.

As a father, there was little I could do. As a journalist, I could investigate our system.

I quickly discovered that my Mike was not alone, because of deinstitutionalization and our flawed system, there are 300,000 persons with severe mental disorders in our jails and prisons; 500,000 on probation; 700,000 go through our justice system every year. The largest public mental facility in the United States is not a hospital; it is the Los Angeles County jail.

Mike ended up being sentenced to 2 years of probation. He completed treatment. He took his medication. Everyone told him mental illnesses are chemical imbalances. They are biologically based. The heart gets sick. The mind gets sick. There was nothing for him to feel ashamed about, but when Mike told potential employers he had a mental illness, his application was rejected. My son has a college degree. He was refused a job bagging groceries.

Six months after Mike's probation ended, he stopped taking his medication. Because of my research, you would think I would be smart enough to protect him. But I found myself again being stymied. When I called the Fairfax County Mobile Crisis Unit for help, the dispatcher asked if Mike were dangerous. Not yet, I said. Then there is little we can do to help him.

I begged. I pleaded. I badgered my son to take his medicine. But he refused, and he got worse.

A month ago, 4 weeks ago, his mother and I called the Fairfax County Mobile Crisis Team. Mike had become violent. The dispatcher told us, call the police. We don't answer calls if the person is violent. I was afraid of the police. I was afraid they would arrest him. I was afraid they would harm Mike or he would harm them. So I called a social worker who is a close friend who works with the police department. He got out of his bed at midnight and came over. He insisted that the police call a sergeant who is equipped with an electric stun gun, a taser. He was sent to our house. Mike ended up being shot twice with the taser. He was hog-tied, and once again, he was taken to a community center instead of to the jail.

It took us 3 hours before we could see a doctor on duty. Luckily, he agreed to hospitalize Mike. It took 3 more hours to find a hospital with a vacant psychiatric bed, and they only agreed to take my son after they learned he had insurance.

I live in one of the wealthiest counties in America. It can take a person with a severe mental illness 6 months to get into a treatment program, 2.7 years to get a case manager, 17.5 years to get into subsidized housing. You have asked me what it is like to be a parent with a person with a mental disorder. Each time my son laughs, I wonder if he is taking his medication. Each time he becomes sad, I wonder if he is heading for another relapse. Each time the phone rings, I shudder. I live on an emotional cliff waiting for the next breakdown. But I also cling to the hope that Mike will find a way to control his illness, that science and therapy will curb his disorder.

I try to focus on persons such as my panel members for inspiration. I look to you for leadership, leadership that will bring an end to the criminalization of persons with mental illnesses, leadership that will bring about sensible reforms, leadership that will enable Mike and other sons and daughters to get help and not be turned away by a doctor when he says, bring him back when he tries to kill himself or kill you. Thank you.

[The prepared statement of Pete Earley follows:]

PREPARED STATEMENT OF PETE EARLEY, WRITER

Summary: When journalist Pete Earley's adult son, Mike, developed a major mental illness, his father rushed him to an emergency room, but a doctor there refused to treat him, citing civil rights laws that said Mike had to be an "imminent danger" either to himself or others before he could be helped against his will. Mike thought pills were poison. Earley was told to bring his son back if he tried to kill himself or someone else. Forty-eight hours later, Mike broke into an unoccupied house to take a bubble bath during a psychotic episode. He was arrested and charged with two felonies: breaking and entering, and destruction of property. Earley was so outraged by a legal system that had stopped his son from getting help and now wanted to punish him, that he launched his own investigation into today's mental health system. He eventually spent a year inside the Miami Dade County jail in Florida where he followed several mentally ill prisoners through the court system and into the community. He interviewed correctional officers, judges, attorneys, mental health workers, psychiatrists, the police, parents of persons with mental illnesses, and consumers to learn why jails and prisons have become our new mental asylums. He has published his findings in a nonfiction book, CRAZY: A Father's Search Through America's Mental Health Madness, which tells two stories. The first is his son's. The second is an expose that explains how persons with mental illnesses are being treated today. Earley concludes that we need to take immediate steps to stop the criminalization of persons with mental illnesses by: re-examining our nation's commitment laws, establishing Crisis Intervention Training for the police, stopping the closing of psychiatric hospital beds, and by improving community based treatment services.

Thank you for inviting me to testify this morning about my son, Mike, and what it feels like to be a parent or a loved one of a person with a serious mental disorder. The quick answer is: frustrating and heartbreaking. It is difficult enough to battle a biological brain disorder. It is even more frustrating and more heartbreaking when you encounter a

mental health care system that is callous and so deeply flawed that it throws up roadblocks to recovery rather than offering a helping hand.

I have included an excerpt of my book, *CRAZY: A Father's Search Through America's Mental Health Madness*, in this written testimony. It will explain how we are turning persons with mental disorders into criminals, how jails and prisons have become our new mental asylums, and how we have gotten ourselves into this tragic yet preventable mess.

Please read it. I live in one of the most affluent and sophisticated suburbs in America in a Virginia county that prides itself on having a model mental health care system, yet my son ended-up being punished – rather than treated -- because of his illness. Sadly, what happened to him is not an aberration.

There are 300,000 persons with severe mental illnesses currently in our jails and prisons. Another 500,000 are on probation. 700,000 go through the court system each year. Those who aren't in jail, oftentimes are hidden away in repugnant assisted living facilities. In Miami, 4500 persons with severe illnesses are housed in 647 rooming houses. 397 of these slum operations can't pass the state's minimum standards for boarding homes, yet Florida continues to use them. We have closed down the giant warehouses that were state mental asylums. But sadly, we have not helped thousands of persons with severe disorders. Instead, we have simply hidden them better.

As we have heard today, we have made significant advances in developing medications and treatment. But none of these promising scientific discoveries will matter if we cannot find a reasonable and sensible way to deliver services to persons who need help. As you read my son's story, you will discover that getting help is often nearly impossible even when medical solutions are available. Please remember two additional facts. Mental disorders can strike anyone regardless of their race, creed, political clout, or wealth. Bipolar disorder, severe depression and schizophrenia are equal opportunity afflictions. If it happened to my son and me, it can happen to your son, daughter, mother, father, or sibling. Also understand that I am not alone in asking for reform. Consider this note that was written by a mother who posted it on my author's webpage (www.petearley.com).

"Only a parent with a seriously mentally ill child, like yourself, can understand the terror and desperation that we suffer. I live constantly with the threat of my adult son's arrest or death (or worse) and I have even harbored the horrible thought of taking my own life and his on occasion to just end this never-ending nightmare."

This mother is suffering, not only because of her son's mental illness, but by her inability to get him meaningful help. Science can give us the tools to unlock the brain's mysteries. But these discoveries are useless if we can't develop a mental health care system that can provide services and treatment. My son's story is a testament that such a system does not exist today. What I found during my year long investigation at the Miami Dade County jail is a testament that such a system does not exist today. We need Congress to fix these problems.

I applaud your committee for taking an important step today by holding this hearing and calling attention to the need to end stigma. But please don't stop here. I beg you. My son, Mike, has a mental disorder that is trying to destroy him. He and I have no choice but to put our trust in medical research. But whether or not Mike ends up living on the street, eating out of a garbage can and being attacked by teenage thugs wielding baseball bats – or living in a rat infested assisted living facility -- or spending the rest of his life locked in a jail cell for a crime that could have been prevented – these are scenarios that are within our control.

Here is our story. I wrote it because I wanted mental illness to take on a human face. It is my son's, but it is a face that can be worn by thousands.

"How would you feel, Dad," Mike asked me, "if someone you loved killed himself?"

My son's voice sounded weary. We were speeding south on Interstate 95, just north of Baltimore, racing toward a Fairfax County hospital. I had rushed to Manhattan earlier that morning to get Mike after his older brother telephoned me in a panic. They both lived in New York City. Mike had not slept in five days, had been walking aimlessly throughout the city, and was about to lose his job as a waiter. He was convinced God was sending him encrypted messages.

Without warning, Mike burst into laughter. "Dog God!" Ha, ha, ha. "God Dog! Get it?"

Just as quickly, he began to sob. Tears flowed down his cheeks. I hadn't seen him in such pain since he was a boy and got smacked in the scalp with a stick by a playmate. I had driven him to the hospital and held his hand while they sewed stitches. He had been five years old back then. Now he was twenty-three.

"Why are you crying?"

"I can't tell you because you will hate me forever."

My wife, Patti, already had alerted the emergency room at Inova Fairfax Hospital. It's where we had taken him before when he'd suffered a mental breakdown a year earlier. There had been no warning signs, no known family history of mental illness. Mike had recently graduated from a Brooklyn art school when one of his friend's had showed up with him at my front door. He was babbling about a girl named Jen, telling me that she was in danger, that people were going to hurt her and that he needed to save her. None of it made sense. I put him to bed, but he became paranoid and when I finally was able to persuade him to go to the hospital, security guards had to wrestle him down. That was when I had first heard the term: bipolar disorder.

With anti-psychotic medication, time, and therapy, Mike had become his old self again and returned to New York. I called every Sunday but our recent conversations had been shorter than usual. Still, I'd not suspected that anything was wrong. The truth was that both of us wanted desperately to believe the doctors had made a mistake, that he had been misdiagnosed and his first episode had been a fluke brought on by too much stress and too little sleep.

But then his brother called. Mike had not been taking his pills and now he was acting crazy.

"Please take your medicine," I begged. I'd been trying to get Mike to take Zyprexa, an anti-psychotic, since he'd first gotten into my car.

"Pills are poison."

But moments later, he said: "Okay, I'll take your damn pill." He reached for the water bottle that I'd given him, but he paused before he slipped the tablet into his mouth and then dropped his hand next to the car seat out of my view. Was that the pill?

I pressed harder on the gas pedal. I had to get him to the hospital. He would be safe there. Its doctors would know what to do.

I had no idea.

I had been a journalist for more than thirty years, a Washington Post reporter, and the author of several nonfiction books about crime and punishment and society, some award-winning, even best-selling. I'd interviewed murderers and spies, judges and prosecutors, defense attorneys and defendants. But I was always on the outside looking in. I had no idea what it was like to be on the inside looking out – until Mike was declared mentally ill.

Our manic trip from New York City to Fairfax in late August 2002 was the start of a harrowing journey. We were about to plunge headlong into the maze of contradictions, disparities, and catch-22s that is America's mental health system. But even that was nothing compared with what happened when Mike, suffering delusions, committed a

crime and was arrested, thrusting us into a judiciary that proved ill-equipped to handle madness.

Few of us worry that we'll wake up mentally ill. But what if the phone rings, and it's someone telling you about your sister, your daughter, your mother or your son? It happens more than you think. Fifty-one million Americans have mental disorders. Nearly all Americans have at least one relative who is mentally ill. Six-and-a-half million Americans are so debilitated by mental illness they are considered disabled.

Because of what happened to Mike, I have spent the last four years examining our nation's mental health system from an unusual perspective -- as a father struggling to help his son and as a journalist investigating a larger story. What I have discovered should outrage us. It should also scare you. Because the way we treat the mentally ill today in America is a national disgrace and mental illness is indiscriminate. Your education, your income, your political clout, your zip code -- none of it matters.

If it could happen to my family, it could happen to yours.

By the time we reached the hospital it was eight p.m. The intake nurse rolled her eyes as Mike blabbed about God. She put us in an examination room to wait. For the next two hours, no one came to help us. Another hour passed and then, incredibly, another. It was now midnight.

"I'm leaving," Mike declared.

I stepped out and flagged a nurse. An emergency room doctor came in moments later. As he stepped toward Mike, the doctor raised his arms as if surrendering to enemy troops. "There's not going to be much I can do for you," he announced.

I thought: You haven't even examined him!

The doctor asked Mike: "Do you know who I am?"

"You're the witch doctor. Owe-ee-ow-ah-ah."

The doctor grinned. This isn't funny, I thought. I blurted out: "He's been hospitalized before for bipolar disorder. He hasn't been taking his medication."

But the doctor cut me short. "What's happened before this moment really doesn't matter." He asked Mike to name the president. Then had him count backwards from a hundred. "What does the phrase 'Don't cry over spilled milk' mean?" Mike answered each question and then added that God had made him indestructible.

"Virginia law is very specific," the doctor explained. "Unless a patient is in 'imminent danger to himself or to others,' I cannot treat him unless he voluntarily agrees to be treated." Before I could reply, he asked Mike, "Will you take medication?"

"I don't believe in your poisons. Can I leave now?"

"Yes," the doctor said. Mike leaped from the exam table and hurried toward the exit.

"But he's not thinking clearly," I stammered.

The doctor shrugged. If Mike tried to kill himself or hurt someone, he said, I could bring him back.

During the next twelve hours, I listened to Mike as he slipped deeper and deeper into a mental abyss. Nothing can prepare a parent for this horror -- watching your child being tormented by his own thoughts. In the morning, I decided to spike his breakfast cereal with an antipsychotic medication. But Mike spied flecks of the pill's pink shell floating in the milk and erupted. "Take me to mom's house!" he yelled.

His mom is my ex-wife, who lives nearby. During the drive, he became so furious at my badgering about his pills that he jumped out before I could bring the car to a full stop. He ran the rest of the way there.

Forty-eight hours later, the Fairfax County Police called. Mike had been arrested. He'd gotten up before sunrise and gone outside. Suddenly, he'd felt filthy, so dirty that he had to take a bath -- immediately. He shattered a glass patio door at a stranger's house and darted in. Fortunately, the homeowners were away for the weekend. After rummaging

through the kitchen, Mike went upstairs to take a bubble bath. Alerted by the home's clanging burglar alarm, the Fairfax County Police sent a dog inside. It bit into Mike's arm and dragged him down. But it still took six officers to subdue him.

The police drove Mike to the Woodburn Center for Community Mental Health, less than one mile from the Inova emergency room where I'd first taken Mike for help and been turned away. None of this would have happened if that damn doctor had treated Mike, I thought as I turned into the Woodburn parking lot.

Police Officer Vern Albert was standing at the entrance. "Even though your son has broken into a house, unless you tell the medical personnel inside that he's threatened to kill you, they aren't going to treat him. We'll end up taking him to jail and you don't want that. Not in his mental condition."

"But he hasn't threatened to kill me."

Albert shot me an exasperated look.

I went inside, and I lied. The police drove Mike to the psychiatric ward at Inova Mount Vernon Hospital in Alexandria. I followed. "How long does it take anti-psychotic medicines to work?" I asked a nurse there.

She seemed surprised. "Just because your son is being admitted doesn't mean he's going to be treated," she said. It was against the law for doctors to force Mike to take anti-psychotic medication, she explained, even though he was clearly psychotic.

An attorney called a few hours later and explained she had been appointed to represent Mike. I was excited because I naively thought she was going to help me get Mike treatment. But she explained it was her job to get him released as quickly as possible if that is what he wanted.

"But he's not thinking clearly!" I snapped. "He's sick."

"I'm just doing my job," she replied.

At a commitment hearing the next morning in the hospital, Mike agreed to sign himself into treatment voluntarily.

"Why are you doing this?" the hearing officer asked.

"Because I'm having a relapse and my parents want me somewhere safe."

I felt relieved. Now he could finally get help. That night, I brought Mike a box of fast food chicken. I knew he wouldn't like hospital food. It happened to be my fifty-first birthday and despite his confused mental state, Mike remembered and handed me a hand-drawn card. From nowhere, he mentioned a fishing trip to South Dakota we'd taken. He'd been five and had wandered off from the lake. The ground had given way at the edge of a ravine, causing him to fall half-way down it before he'd grabbed a shrub and stopped the fall. I'd climbed down and rescued him. Over time, the story had grown. The gully had become a hundred-foot-cliff. That was when he was little, and I was still his hero. We laughed about the story and then I said: "Get well, son, that will be the best birthday gift ever."

The next morning, the hospital psychiatrist called. A pill had been found on the floor in Mike's room. He'd pretended to take it and then spit it out. I confronted him that night. "I keep thinking this is all a dream," he said. "I'll just wake up and it didn't happen."

I touched his hand. "This is real. You've got to take your medication."

Dr. James F. Dee called the next morning. Mike was taking his pills, but there was a new problem. Our insurance company wanted Dr. Dee to discharge Mike later that day. Dr. Dee didn't believe Mike was ready, but because Mike hadn't tried to kill himself and was now taking his pills, the insurance company wanted him out.

I called the insurance company, but the woman there had no sympathy. "Your son can recover at home."

"But he's not stable!" I said, and then I lost it and I did something that I had never done before as a journalist. I warned her that I was a former Post reporter and was friends

with Mike Wallace of 60 Minutes. If her company forced Mike out, I'd notify the Post. I'd call Wallace. As I put down the receiver, I realized that since Mike's breakdown, I had lied to get him hospitalized and now I was violating my professional ethics to keep him there.

Dr. Dee telephoned that afternoon and said the insurance company had backed off. Mike could stay in the hospital as long as necessary. I learned later that a girl, who had stabbed herself in the neck with a pencil, had been released that day. Within two hours, she had disappeared, leaving her parents to drive the streets.

Mike slowly got better and we arranged for him to enter a community mental health day treatment program in Reston. I began to feel optimistic. And then the phone rang.

"I'm Detective V.O. Armel," the caller said. "Two felony warrants have been issued for your son's arrest." Mike had been charged with "intentionally destroying, defacing, and damaging property in excess of \$100" and "breaking and entering...with the intent to commit larceny." Both carried up to \$10,000 in fines and five year prison terms.

"But my son's mentally ill," I protested. "He didn't know what he was doing. And I tried to get him help in a hospital before this happened."

"Just because your son is mentally ill doesn't mean he can't be charged with breaking the law."

What happened to Mike was not uncommon. A major shift has occurred in America.

In 1955, some 560,000 Americans were patients in state mental hospitals. Between 1955 and 2000, our nation's population increased from 166 million to 276 million. If you took the patient-per-capita ratio that existed in 1955 and extrapolated it out based on the new population, you'd expect to find 930,000 patients in mental hospitals today. But there are fewer than 55,000. Where are the others? More than 300,000 are in jails and prisons. Another half million are on court-ordered probation. The largest public facilities for the mentally ill are not hospitals. They are jails and prisons. They have become our new asylums.

Why? I decided to go to Miami, Florida to find out. I chose it for two reasons. I didn't want to risk irritating local officials in Fairfax by writing about the jail system here since they would be in charge of deciding Mike's fate. I also had been told that Miami has a higher percentage of mentally ill residents than any other major city. Three percent of the population in most American cities are mentally ill. In Miami, it's nine percent. Besides the normal three percent, another three percent come for the warm weather and another three because of Fidel Castro. In 1980, he released patients in Cuba's mental hospitals into the stream of refugees fleeing to Florida from the port of Mariel.

Miami has been struggling with mixed success to deal with its mentally ill. It proved representative. I could just as easily have chosen Chicago, Los Angeles, Philadelphia or Washington D.C. Miami's jail system is the fourth largest in the nation. Sixteen percent of its inmates have severe mental disorders. The craziest are housed on the ninth floor in the downtown jail in "suicide watch" cells with plexiglass front walls so officers can keep an eye on them.

Dr. Joseph Poitier, the jail's psychiatrist, took me on his morning rounds. As we entered C wing, I gagged. The air stunk. It was a putrefied scent, a blending of urine, expectorant, perspiration, excrement, blood, flatulence, and dried and discarded jailhouse food. I listened to the sounds. Toilets flushed. Prisoners hacked, coughed, groaned. Correctional officers laughed and yelled commands. Leg chains click-clacked against the hard surface as prisoners arrived. These were typical jail noises. When I listened closer, I heard the asylum sounds. A prisoner sobbing uncontrollably, another moaning, a third screaming.

Thud, thud, thud.. Then faster. Thudthudthud. Then louder. THUD. THUD. THUD. An inmate was banging his forehead against a glass cell front.

The inmates peering out at me in the first cells were naked. There was nothing in their cells except a combination sink and toilet. Nothing. No television, no radio, no magazine, no place to sleep, no chair. Nothing. Because of a design flaw, the temperature in each cell hovered in the 60s. The inmates were trembling in the frigid air. A few rocked back in forth on their heels, mumbling. Some had urinated and defecated on the floor. Most stood at their cell fronts looking out at the officers. They had blank expressions, hollow eyes. I had never seen such bleak conditions and I have been in hundreds of jails and prisons as a reporter.

"What I do here is triage," Dr. Poitier explained. There is no meaningful treatment. As we shifted from cell to cell, he spent his rounds trying to persuade prisoners to take medication. They had arrived on C wing with no medical records. Many were homeless. Most of their families have given up on them. Psychotic inmates could spend months here. Others would be released only to be arrested within hours on different charges related to their illnesses, such as trespassing or being a public nuisance. If they were charged with a felony, they would eventually be sent to one of Florida's three forensic hospitals. But there was a long waiting list and even then, they were not treated there. Instead, they would be given medicine until they were judged "competent" for trial and returned to Miami. Sometimes it could take five or six trips between the jail and hospital before they were stable enough to appear in court.

We paused outside a cell designed for two men, but holding six. A prisoner was lying on the floor next to a toilet that another was urinating in. Because the splash was hitting the inmate's face, Dr. Poitier was concerned. He asked a prisoner to roust the man to make certain he was sleeping and not dead. The inmate raised his head, grunted, and rolled over. As we were about to move on, I notice movement underneath a steel bunk. Dropping to my knee, I peered through the smudged glass wall. A man was curled up there. He had schizophrenia, which can cause hallucinations and confused thinking, and was chewing on day-old orange peels. He smiled and waved.

I checked my watch after we finished the morning rounds. Dr. Poitier had spoken with or visibly observed ninety-two inmates. His rounds had taken 19 ½ minutes. That was an average of 12.7 seconds per prisoner.

"A lot of people think someone who is mentally ill is going to get help if they are put in jail," Dr. Poitier said. "But the truth is we don't help many people here... we can't."

A man with bipolar disorder, which causes rapid mood swings, had been put in jail. For twenty-five years, he'd taken his medication and lived an ordinary life. But then he'd lost his job and couldn't afford his pills. He'd attacked his father and been arrested. In jail, he jumped from a top bunk headfirst into the floor, snapping his neck. Now, he was a paraplegic.

"Jails are not hospitals," Dr. Poitier said. "Mentally ill people belong in hospitals, not here."

That night I woke up sweating. I had dreamed I was with Dr. Poitier making rounds and had spied an inmate under a bunk. When I bent down to see, the inmate eating the old orange peel was Mike.

In a well-schooled Virginia drawl, Fairfax defense attorney Andrew Kersey assured us that he'd be able to cut a plea bargain for Mike. Because my son had no previous criminal record, was clearly psychotic when he broke into the house, and was now in a treatment program, Kersey felt confident the Fairfax County prosecutor assigned the case would reduce the two felony charges to misdemeanors. Mike would be given a year of probation. It would be an open-and-shut matter.

On the morning of his court appearance, I asked Mike if he understood what was happening. He didn't. He was still groggy from medication, but he was eager to go to court. When I asked why, he replied: "I get to wear my new suit!" Before he'd become

manic, he'd bought a suit because he was going to interview for a new job. This would be the first time he had worn it.

"There's a problem," Kersey announced moments before the hearing. "Our plea deal is off." He explained that the assistant prosecutor had never cleared the deal with the homeowners and when they heard about it this morning, the wife had gotten angry.

"She wants your son put in jail or an institution," Kersey explained. "The victims are demanding he plead guilty to at least one felony charge."

"But a felony will ruin Mike's future." His college degree was in a profession that required a Virginia state license. Felons were ineligible.

Kersey gave us a sympathetic look and said: "What's odd is the judge will still give Mike the exact same sentence." If Mike pleaded guilty to two misdemeanors, he'd get a year of probation. If he were forced to plead guilty to a felony, he would still get a year of probation.

Kersey wasn't certain if the wife understood this, so he ducked back into the courtroom to talk to her, leaving us to wait in the hallway. I checked my watch. Six minutes to go before court started. A few moments later, Kersey reappeared. The husband didn't care but the wife wanted Mike punished. Before Mike took his bubble bath, he broke a family heirloom dish, turned photos of her children face down on the mantel, drank some booze and left the bathwater running in the house causing extensive damage. Most of all, Kersey said, the wife felt violated. Mike had taken a bath in her teenager daughter's bathroom. That's creepy. Why had he chose their house? What if he came back? She was so unnerved that she was pressuring her husband to sell their house and move away.

"What she really wants is for your son to be put in prison," Kersey said.

"But he's mentally ill. Bipolar disorder is a chemical brain disorder. It's like cancer. You get it. You don't do anything to get it. It just happens to you," I said.

Kersey nodded at his watch. Four minutes. He explained our options. If Mike pleaded guilty to a felony, the case would be over. If he pleaded not guilty, the judge would set a trial date. But a jury would probably find Mike guilty because he'd been arrested inside the house. It might send him to prison. There was a third choice. Mike could plead "not guilty by reason of insanity" but if we won, he would not be turned loose. He would be taken directly from the courtroom to the jail to wait for a bed in a Virginia forensic hospital. Mike could spend weeks waiting and there would be no way to know when he might be released after he was sent to the hospital. He'd also be identified in court records forever as being innocent, but insane.

"We'd win in court," Kersey said, "but your son would lose."

Three minutes and ticking. Three minutes to decide which was the lesser of three punishments that, as Mike's father, I believed were all unfair.

"Offer them money," I said. Kersey said no. The wife was legitimately afraid. She felt twice victimized. Mike had broken into her house. The prosecutor had not consulted her about the plea deal. She was the victim, not Mike, and in today's get-tough-on-crime environment, no elected prosecutor wanted to appear soft on crime.

Two minutes.

"What do you want to do?" Kersey asked.

I didn't know. How could this be happening? Kersey suddenly had another idea. He'd ask Detective Armel for help. The police often bond with victims. He rushed back into the courtroom.

Mike and I waited. He didn't have any idea what was happening. When Kersey rejoined us, he shook his head. Nothing had changed. Detective Armel had explained that Mike's punishment would be the same, but it hadn't mattered to the wife.

We were out of time. Mike and I followed Kersey into the courtroom. I noticed Detective Armel was still speaking to the victims. I didn't know what to tell Kersey. Which was better? Pleading guilty to a felony and having Mike marked for life? Risking

a trial and having him found guilty? Or fighting the charges by pleading that Mike was insane? I'd been given less than ten minutes to make a decision that was going to forever alter my son's future.

The judge entered. The clerk began reading the calendar of cases. Mike's name was third on the list. For the first time in my life, I was literally frozen with indecision. I looked at Mike. I looked at Kersey. He needed an answer.

At that moment, I saw Detective Armel walk down the aisle to talk to the prosecutor. I glanced at the husband and wife. She was sobbing. But I felt no sympathy.

Kersey hurried up to Armel. The clerk called Mike's name. The prosecutor said, "Judge, we'd like to continue this case."

The judge agreed to put it aside for three months.

Kersey hustled us out into the hall. Detective Armel had won us more time by telling the wife that Kersey might be able to come up with an offer that would be better for them than one year of probation.

The homeowners and Armel exited the courtroom. None looked at us.

"Mike," I said, "do you see those people walking there?"

He looked and had no idea who they were.

Dorothea L. Dix visited a Boston jail to teach a Bible class in the 1800s and discovered mentally ill prisoners had no heat despite freezing temperatures. The jailer said: "The insane don't need heat." Dix spent the next two decades exposing how "lunatics" were being abused in jails and prisons. She would be credited with persuading thirty states to build asylums for treating the mentally ill, rather than punishing them because they were sick.

By 1900, every state had a mental institution, but conditions in them were wretched. Patients were often committed by relatives. The system was abused and the hospitals became a catch-all for society's disposables – the elderly, the deaf, the blind, and the poor. On May 6, 1946, Life magazine published a story entitled: Bedlam: Most U.S. Mental Hospitals Are a Shame and a Disgrace. It began by describing a mental patient being tortured to death by the staff. Other investigative stories compared conditions in state mental hospitals to Nazi concentration camps.

In 1963, President John F. Kennedy asked Congress to spend three billion dollars to replace the nation's cruel state hospital system with a network of Community Mental Health Centers. The discovery of promising new antipsychotic drugs made it possible for severely mentally ill patients to return to their hometowns and live outside locked wards.

It was a grand plan, but Kennedy was assassinated, the Vietnam war escalated, Congress got ensnared in Watergate, and the mentally ill were forgotten. In the 1980s, civil rights attorneys began filing class actions lawsuits to close down horrific state hospitals. They won a slew of precedent setting cases. The police could no longer arrest someone just because they were mentally ill; a psychotic person could not be locked indefinitely against their will in a hospital; they couldn't be forced to take medication or undergo forced treatments, such as electric shock or lobotomies. The U.S. Supreme Court ruled that the mentally ill were entitled to the same due process protections as suspects in criminal trials. Under pressure, Congress agreed to make the mentally ill eligible for Medicaid and Medicare, but only if they were not living in a state hospital. It was Congress then, that gave state legislators a way out. Afraid of class action lawsuits and mounting public pressure to do something about the asylums, state legislators began boarding up mental hospitals and discharging patients. This massive exodus was called "deinstitutionalization."

And what happened to the mentally ill?

In most states, patients were released without any effort being made to link them to community services – if, in fact, there were any. President Kennedy's promise of three billion dollars was a cruel lie. There were no network of community treatment centers

and those that had been built were never intended to help deeply disturbed patients. Chronically mentally ill patients began appearing on street corners. By the 1990s, there were so many being locked up on minor charges that a word emerged: trans-institutionalization, bureaucratize for the “transfer” of the mentally ill from hospitals into jails.

Like most states, Florida made no preparations before it began dumping patients. But eventually, it found homes for most in “assisted living facilities” – cheap hotels and boarding houses. Today, there are 4,500 mentally ill patients living in 650 “ALFs” in Miami. Almost 400 of these ALFs fail the state’s minimum standards for boarding homes. They are unsanitary, unsafe, and, in most cases, wretched places. “I wouldn’t put my dog in this house,” a Miami police officer told me when we toured an ALF. But Florida allows these substandard homes to operate because there is no where else to house the mentally ill.

Florida’s dreadful state mental hospitals had been closed by deinstitutionalization, but the lives of the mentally ill hadn’t really gotten better. The state had simply scattered them and hidden them better in ALFs.

I decided to check the Washington D.C. metro area. Since 1955, the District has lost 92 percent of its public mental hospital beds; Maryland has lost 86 percent, and Virginia: 84 percent. Although private hospitals have opened some wards, there are only 98 beds for every 100,000 mentally ill people in the metro area, creating a staggering backlog. As in Florida, the number of mentally ill in local jails has mushroomed. Today, 2,551 inmates in Virginia state facilities are considered severely mentally ill. Another 3,330 prisoners in Maryland – fourteen percent of the state’s inmate population – are mentally ill. And an whopping 33% of the District’s inmate population require mental health services.

In a letter to the homeowners, our attorney said Mike would meet a much tougher set of restrictions if they would allow him to plead guilty to misdemeanors. Instead of serving a year of probation, he’d serve two. He’d stay in the day treatment program, continue seeing a psychiatrist after he was discharged, submit to blood tests to prove he was taking his bipolar medicine. Kersey would obtain a restraining order against Mike that would forbid him from coming near their home. He reminded them that Mike had a clean record, was truly remorseful, and that he’d chosen their house at random. “This should do it,” he said confidently.

But a few weeks later, he received the couple’s harshly-worded response. They wanted Mike in jail. They insisted he plead guilty to a felony. If anyone deserved sympathy, they added, it was them.

“You need to prepare Mike,” Kersey warned. “He’s going to become a felon.”

Mike was wearing his new suit again when we returned to court. Just before it was about to start, Kersey came rushing up.

The victims had telephoned the prosecutor’s office the night before and asked for a continuance. The husband was out-of-town on a business trip and the wife didn’t want to come to court alone. But the prosecutor had turned them down. “If the wife isn’t here, there’s a chance the prosecutor will let your son plead to the two misdemeanors,” Kersey said. He’d shown the prosecutor the list of additional restrictions that Mike was willing to accept.

We stepped inside. Every time I heard the courtroom doors open behind me, I turned to see if it were the wife. The judge entered. The wife still hadn’t. The clerk began to call the docket. When he reached Mike’s case, I heard the door swing open and felt betrayed. I assumed she had been hiding, mustering her courage, but when I glanced around, it was a stranger. Still, none of us knew what if the prosecutor would accept our offer.

“Your honor,” he said, “we have reached an agreement in this matter.”

In fewer than three minutes, it was over. Mike had pleaded guilty to two misdemeanors and had been placed on two years of probation.

As we left the courtroom, I thought about the wife. I had honestly come to despise her. But now, I wondered how I would have felt if I had come home and discovered a madman had broken through my plate glass patio door. How would I have reacted if he'd taken a bubble bath in my teenage daughter's tub? What if I had become so distraught that I had felt compelled to put my house on the market? Would I have acted like she had? Or, would I have showed compassion? Because it was Mike, the answer had seemed so obvious. But, sadly, when I stripped away his face and replaced it with the menacing look of a deranged stranger, I realized I might have reacted much as she had. I felt conflicted. The victims had not had the knowledge that I now had about mental illness. But I would not have had that information either had it not been for Mike's unexpected plight. I began to see the wife differently. I began to see her as the reader whom I most wanted to reach with my book, the audience that I most needed to persuade. I was also forced to realize that she truly was a victim. And it was Mike who had victimized her. I only hoped that someday she would come to see that Mike had been a victim too.

Mike kept the plea deal. He completed the day treatment program, stayed on his medication, and began looking for a job. He'd been told being mentally ill was nothing to be ashamed about because it was a chemical imbalance. But when he mentioned that he had bipolar disorder, his job applications were rejected. Mike had a college degree, but our neighborhood Giant food store turned him down for a job bagging groceries. A sympathetic human relations director told him not to be so forthcoming. "If I knowingly hire someone who is mentally ill and you end up hurting someone on the job, that person can sue me and the company. No one is going to hire you if you tell them the truth." Mental illness, we'd discovered, carried its own life sentence.

A temp service finally found Mike menial work and he eventually became a full-time employee. Proud of his new independence, Mike invited me to lunch. We met at a steak house and sat outside because it was a warm afternoon. He had come a long way from that panicky day when we had raced to the hospital. Our food came and he recalled how I'd brought him fried chicken in the hospital. We talked again about the fishing story -- the one about him falling down a South Dakota cliff and me climbing down to rescue him.

I watched him eat his steak. He was a handsome man. Tests showed his IQ was higher than mine. I realized how fortunate we both had been. He had recovered. He hadn't spent time in jail or been marked for life as a felon. He was doing well on his medication. His bipolar disorder was in check.

I thought about people whom I'd met in Miami while I was doing research inside and outside the jail. Judy Robinson's mentally ill son had been in-and-out of jail forty times. Another mother's son had lived homeless on the streets for nine years - despite her attempts to get him help. She had driven by him rooting through garbage cans every morning on her way to work and had been helpless under the law to intervene. How ironic, that the civil rights laws that had been passed to prevent the mentally ill from being abused in state hospitals were now being cited to keep them from getting help until they hurt themselves or someone else and ended up in jail. I'd met a woman in Miami the same age as Mike. Her mother had gone to court several times to force her into a hospital, but doctors had repeatedly discharged her because her life wasn't in imminent danger. She had been twice gang raped while psychotic on Miami's mean streets. Another woman, Alice Ann Collyer, had shoved an elderly bystander at a bus stop during a delusional moment. Because she was considered dangerous, prosecutors had transferred her back-and-forth between the Miami jail and a state forensic hospital for three years just to keep her off the streets. Three years in jail without ever being convicted of a crime. Miami's treatment centers were overwhelmed and inadequate. Its system badly

broken. As Dr. Poitier had warned, we had gone backward. We now treat the mentally ill in America just as we did in the 1830s when they sat in freezing jail cells put there because there is no where else for them to go.

I had begun my research because I wanted to save my son. But I now realized that I had actually been searching for a way to save both of us. I had been trying to learn how a parent comes to accept his child's mental illness. So what had I learned, not as Pete Earley the reporter, but Pete Earley, the father? Several quiet truths. Life is often unfair and nothing in life is ever guaranteed. There was a slim chance Mike would never have a relapse. But there was a better chance that he would stop taking his medicine because he would become convinced that he no longer needed it. His illness was not over because I was writing the final chapter of my book.

"You know what your problem is dad?" Mike said, as if he were reading my thoughts. "You worry too much. Just eat your steak and enjoy this lovely day."

Everything is going to work out fine for me, you'll see."

It was the blind optimism of youth talking. And yet, Mike was right. At that moment, everything was fine. My son was thinking clearly. He had a job, was making plans for his future, and seemed happy.

Which led me to another lesson.

Mental illness is a cruel disease. No one knows who it might strike or why. There is no known cure. It lasts forever. My son Mike has it. And because he is sick, he will always be dancing on the edge of a cliff. I cannot keep him from falling. I cannot protect him from its viciousness. All I can do is stand next to him on that ravine, always ready to extend my hand. All I can do is to promise that I will never abandon him.

I took a bite of my steak and it tasted better than any I had ever eaten. I understood why. The sun was warm on my face and I was a most fortunate man. I was a proud father. Mike was laughing. He was safe.

I had my son back. At least for now.

MR. DEAL. I want to thank all of you for the very courageous testimony we have heard, very heart-wrenching, quite frankly.

Mr. Earley, as someone who has been a former juvenile court judge myself, I can empathize with the situation that a parent is in. Unfortunately, these diseases as we have heard from your testimony and as we have heard from the expert panel earlier, the onset many times is at the age beyond which the law says that they are independent and therefore not subject to the control of parents. Yet parents are the ones who feel the impact of these situations as you have so graphically described.

I guess I would ask some general questions of the three of you, and you come at this issue, quite frankly, from sort of different directions, one being the parent and the other two being the victims themselves or the individuals suffering from the problem.

Looking back on your situations, I suppose, Ms. Martin and Mr. Lamphere, what could have been done earlier in your personal situations that would have made a difference in the direction that your lives took? Who and what would have been the resources that could have been that difference?

Very general question. Ms. Martin, I will start with you.

MS. MARTIN. I think the way I could have been most helped is, my family knew I was suffering from depression, but my Mom especially, having suffered from it herself, was of the attitude, you don't talk about it, you don't tell people about it, you keep it in the family, and you don't get help because therapy is for other people, therapy is for people who are weak, therapy is for people who are whiny. If I had been aware of the benefits of treatment and had someone talk to me about how there shouldn't be a stigma with mental illness, it would have prompted me to get help a lot sooner instead of taking it to the point where I lost a job and I lost income and I lost a lot of self respect. So I think just an initial almost an intervention of someone in my family who knew what was going on to say, you need to get help and you need to get it now and it is okay to get that help, it is okay to admit that you have a mental illness.

MR. DEAL. Mr. Lamphere, you appear to be the rugged individual here who tried to do it on your own. Is that pretty much the course that you took of trying to do it yourself, and if not, what resources did you utilize?

MR. LAMPHERE. My wife was right there until almost the very end. I would say this, there are general practitioners who can dispense antidepressants, and then there are psychiatrists who can dispense them. Then there are psychiatrists, who have depressive experience, and then there are psychopharmacologists, and then you begin to get into teaching level hospitals, and then you can get into real cutting-edge teaching.

This is so complicated, to find the right medicine. You cannot just take Wellbutrin, I am not picking on Wellbutrin, off the shelf and think that that is going to work. You can't just take Paxil next and think that this is going to work.

You are looking for a witch doctor is what you are looking for. You have got to get far down the line to someone who truly understands the combination of drugs that are apt to bring you up.

I think that is where I would have done it differently. I don't think I would have started here and said, oh, these people are experts, or that the drugs are experts in and of themselves.

It is the utilization of the cocktail. You are creating the cocktail, and you need to have the cutting-edge people.

On top of that, I would only add one other point. The treatment of adolescents is a whole other area of specialization. So what I am talking about is adult. But don't forget, these age groups over here are real specialties. If you are dealing with a son or a daughter in that age group, you have got to find the expert there, too.

MR. DEAL. Mr. Earley.

MR. EARLEY. Well, Mr. Chairman, when my son starts to become psychotic, he thinks he is fantastic. Expecting someone with bipolar

disorder or schizophrenia to treat themselves is like asking someone who has 2 broken legs to run a marathon. The National Institute of Mental Health has done a number of studies that show that one of the first parts of the brain that starts to go bad, if you want to use that terminology, is the part that makes you aware that you need help, which is why it is so frustrating for parents and others who love mentally ill persons to try to get them help when they don't recognize they need it.

MR. DEAL. I want to thank all of you.

Ms. Baldwin, you are recognized for questions.

MS. BALDWIN. Thank you, Mr. Chairman.

And thank you all for very powerful testimony. You all point out so powerfully how important it is to educate.

Mr. Earley, I wanted to explore further one of the main issues that you had testified about, I remember when I was a State legislator, having our State legislature tackle the issue of what in Wisconsin we call the fifth standard, dealing with the issue of when you have a patient who does not want treatment, as you just described, under what circumstances treatment can be administered against that patient's will and direction.

And I remember that the debate was fascinating, and it is one that is usually governed at the State level, but I would be interested in hearing more about your thoughts of where you would like to see the State of Virginia go. In Wisconsin, we ultimately created a fifth standard that you could get around the imminent risk of harming oneself or another person. But I remember the very powerful testimony of a man whose wife was mentally ill, and it never manifested itself in any type of dangerous activity in terms of life-threatening to herself or to others. But she wandered and was homeless, and it was just devastating for him to see her in that condition. So dangerousness wasn't an element that would have necessarily gotten care to her. I wonder if you have thoughts, through both Mike's experience and also your reporting on this, of where you believe the State ought to go in terms of getting greater access to treatment for people in your son's condition?

MR. EARLEY. Thank you. You know, I love my son. I want to protect his civil rights. But I don't think it does any of us any good to send someone out in his kind of condition when it is obvious he is not thinking clearly. I think you have to take a look at why these stringent commitment laws were passed. In the 1960s through the 1980s, we had these horrific institutions. They were absolutely horrible. They were compared to Nazi concentration camps, and civil rights lawyers came in and basically said, we are going to make it impossible to commit someone to those horrible places. They have done that.

I don't believe we should trample civil rights, but I think we need to take another look at those laws and try to bring parents and doctors in

and try to remove this imminent danger clause. Treatment today is different than it was. We know more. No one volunteers to be schizophrenic.

My son has been forced into a hospital twice. Each time, it has been less than 2 weeks. He got his medication. He thanked me for taking him in. You know, we have protections in place with advocacy funded by Congress to make sure people don't get abused and put away. Does it happen? Absolutely, look at the D.C. situation. It is horrific. People are being abused. But, right now, people are being abused in jails and prisons. Right now, in Miami, 4,500 people are being housed in assisted living slums by the State that don't even pass minimum standards. So we have closed down these institutions, but we have just hidden the people better.

So I think we need to look at the commitment. I think we need to be more humane about that. I will be real brief here. What you just mentioned is what I found in Miami: 455 people with serious mental illnesses, homeless on the street, most of them committed misdemeanors. What happens? Because they are not dangerous, they go into jail and are held, and they are released, 40, 50 times a year. That is ridiculous.

MS. BALDWIN. Let me ask your opinion on another innovation that I had heard discussed, I don't know of any location where this might actually be law, but there was at one point during our debate in Wisconsin the proposal of allowing somebody with a mental illness to essentially, when treated, issue an advanced directive and basically be able to say that, if at some point in the future I have a reoccurrence and I am not able to make my own decisions, at that point, use the advanced directive as permission to treat me.

Is that something that you think would be worthy of exploration? Would that have served--would your son, for example, at a point in time when he is under treatment and feeling better, be willing to sign something like that?

MR. EARLEY. You know, I have looked at that, and you have a mixed result. In some States, they are not accepted, and in some States, what you will run into is a doctor like I ran into at a hospital that basically will turn to someone and say, you signed this, but how do you feel now? They will say I am fine. They won't abide by it. So I looked into that in Virginia, and I found mixed results.

MS. BALDWIN. Thank you.

Madam Chairman, I yield back.

MS. MYRICK. [Presiding.] I want to thank all of you again for coming and taking your time.

Mrs. Earley's birthday is today, and I want to thank you, say thank you, because she took time from her birthday to be here with us. Thank you.

MR. RUSH. I do have a question.

MS. MYRICK. I am sorry, Mr. Rush, forgive me.

MR. RUSH. That is quite all right.

Ms. Martin, you indicated in your testimony that one of your remedies or one of the things that you attempted to do, you found yourself falling into I guess you implied there was a use of narcotics or drugs, different type of drugs.

And I really feel as though that is a part of the drug problem across this Nation that doesn't get addressed. Again, we are quick to criminalize those who have addictive behaviors rather than really try to understand what are the causes of it. And in your testimony, you indicated that your mental condition, your illness, was the basis of your drug abuse; is that correct? Could you elaborate somewhat on that, please, that particular aspect of it?

MS. MARTIN. Certainly, certainly, Mr. Rush. It was the basis of my drug problem. I had never touched any kind of illegal drug until I was 22 years old. I had just finished my first year in law school, and my depression that I kind of dealt with off and on and had issues with was getting stronger and was pushing more and more forward. Suddenly, I had friends and I knew people who were using drugs. I tried them for the first time and was happy for the first time ever. I remember thinking, wow, this is amazing. Now I know why people do drugs.

For me, it wasn't that physical addiction that people talk about. When I stopped using drugs, I never went through a withdrawal or anything like that. I did it completely as self-medication to feel better.

MR. RUSH. I kind of think that that is--you know, I have a son who is a recovering alcoholic, and his diagnosis, manic, manic depressive. And he invariably at certain points in time I think has been clean now for a couple, about 2, 2.5 years. But, he was self-medicating through alcohol abuse. And it seems to me that, particularly in poor communities, that it is much more prevalent when we, because they don't have access to preventative or diagnostic or clinical services and professional help, that that is a part of the problem in terms of drug abuse and also alcohol or alcohol abuse and using illegal drugs.

And it seems as though our Nation just doesn't want to look at that particular aspect. Does anybody else have any comments you would like to share on that? That is a hidden part. Madam Chairman, that is a hidden part of what is missing here.

MS. MARTIN. I think it is a hidden part, and to some extent, what you say about it being prevalent in the poor community because they

don't have access is completely true, and therefore, they self-medicate that way. Then if you get into a more affluent area of society, you see people like myself, I have several friends who did the same thing. We didn't want to admit we were suffering, and we didn't want to go to a doctor and get help. We didn't want to seek any kind of outside assistance, so we used drugs. SSRIs work on the brain by stimulating serotonin and causing the brain to release serotonin. That is exactly what ecstasy does. Ecstasy floods your brain with serotonin, so taking an ecstasy pill, for me, was like overdosing on my antidepressant. It was amazing. People just say, you are just spoiled kids having a good time, or you are poor, you don't have adequate resources. Well, people really are missing that hidden side of drug abuse and alcohol abuse that is self-medication. It makes us feel better.

MS. MYRICK. Yield back?

MR. RUSH. Yes.

MS. MYRICK. Thank you. You are right. This is an issue we don't talk about. Our granddaughter did the same thing. I have a question about you, and I am glad you are talking about that issue, by the way. I hope you will keep on doing that.

MS. MARTIN. I will try.

MS. MYRICK. My question was, what was the final straw? I know you lost your job, but what was the final straw that made you say, I need to get help?

MS. MARTIN. It actually wasn't losing my job. I knew I was about to lose my job. I had people in my office saying, what is the matter with you, you don't seem like you are enjoying yourself? I was regularly asked if I was suffering from some sort of nasal condition because my nose ran a lot. It finally kind of came to a head in the fall. My grandmother had passed away, and what was pretty much just a weekend binge became an all-week obsession. I had a very close friend who had suffered from depression and mental illness and was one of my drinking buddies for the longest time, and he finally came to me and said, you have to stop or something bad is going to happen, and you need to get help. So that was the final straw. When the person you drink with most of the time says you are drinking too much, then you kind of know you are in trouble.

MS. MYRICK. It was an intervention by a friend.

MS. MARTIN. It was, yes.

MS. MYRICK. Thank goodness.

Mr. Lamphere, again, thank you for being here. I was glad to hear you talk about this being a physical illness because, my point in this hearing has been this awareness issue of brain disease, and it is no

different than heart disease and diabetes and all the other things that we deal with.

We seem to take our brain and put it over here on a shelf, and then here is our body over here, so please keep doing that.

But was there anything in your life, going through this, that you would have done differently? If you look back on it, is there any point where you would have realized, can you see anything now that would be helpful to other people possibly?

MR. LAMPHERE. There is some interesting work being done in New York. I think people have felt that depression always was the causative item of divorce, because of the extraordinary black vortex that sucks the spouse right in, and work being done on what is the middle ground that a spouse can take in that. What is interesting, though, to answer your question is the research that is being done which is, did the marriage cause the depression to begin with, and the drinking or anything else behaviorally that started? I think people might need to start thinking about that. That they have been depressed for prolonged periods of time and maybe self-medicating, and it has to do with the relationship rather than anything else that needs to be addressed that could be the causative item of the depression.

MS. MYRICK. I appreciate that.

Mr. Earley, you have done a lot of research on the prison systems and the jails and the problem that government is paying for. And I hope you will continue along those lines. I have a son who works in that field, and he tells me continually, the percentage of people that are in prison who have a problem with their brain and drugs or alcohol, et cetera, has gotten them here. And I think we have got to face those tie-ins that we haven't looked at before as a society, because they are very real, and as Mr. Rush was saying, those are areas that sometimes we don't look at.

The frustration that you have experienced, I know is very difficult. And the system is a mess from the standpoint of what you can do. We have gone through that with our granddaughter. That is why it took us 6 years to get her diagnosed, because she wouldn't stay anywhere long enough, because the laws would say she could get out and up. You could never get her diagnosed. Recommendations that you have, and I know we don't have time today, but anything that you can share with the committee and anything that we could do, as Ms. Baldwin was saying, that would help would be very beneficial because some of what we have done has caused the problem, and then you get all these jurisdictional problems in addition, and of course, we can't do a lot about that, but nevertheless, there are some things that maybe we could work on and you could be very helpful if you would be willing to work on that as well.

MR. EARLEY. I appreciate that. I think if you look at deinstitutionalization, the population that was in State mental hospitals, as it goes down, jails and prisons went up.

You know one of the quick answers, one of the quick fixes, every police department in this Nation should have a crisis intervention training program, CIT. Fairfax should have one. None were available. These are officers who are trained to deal with people with mental illness. In Miami, the year I was there, the Miami police department, I saw them disarm a man with two knives without him getting hurt. He later thanked them. That same time period, the Miami-Dade Police Department killed five people with mental illnesses because they didn't know how to take care of them. CIT, just like bomb squad, hostage rescue, every police department should have one of those.

MS. MYRICK. Very good advice, again, thank you all very much for being here. Are there further questions? Chairman Deal?

Then that concludes our hearing for today. Thank you. We are adjourned.

[Whereupon, at 1:20 p.m., the subcommittee was adjourned.]

